CONSTIPATION

M18660

HERSCHELL

22101642442

[illegible] Cox

CONSTIPATION.

By the same Author.

INDIGESTION:

AN INTRODUCTION TO THE STUDY OF THE DISEASES OF THE STOMACH.

Second Edition, 5/- net.

LONDON: HENRY J. GLAISHER,
57, WIGMORE STREET, CAVENDISH SQUARE, W.

54800

CONSTIPATION AND ITS MODERN TREATMENT.

BY

GEORGE HERSCHELL, M.D.Lond.,

SECOND EDITION.

LONDON:
HENRY J. GLAISHER,
57, Wigmore Street, Cavendish Square, W.

1899.

9681

HENRY J. GLAISHER,
MEDICAL PUBLISHER AND PRINTER,
WIGMORE STREET,
CAVENDISH SQUARE, W.

M18660

WELLCOME INSTITUTE
LIBRARY
Coll. welMOmec
Call
No. WI400
1899
H57c

PREFACE TO THE SECOND EDITION.

OWING to the short time which has elapsed since the publication of the first edition, no considerable alteration has been required. The text has been carefully revised and a few slight additions made to it. The latter were less necessary insomuch as the book does not profess to be an exhaustive treatise upon the subject of constipation, but merely to lay stress upon certain methods of diagnosis and treatment.

GEORGE HERSCHELL.

76, WIMPOLE STREET,
CAVENDISH SQUARE.

July, 1899.

PREFACE TO THE FIRST EDITION.

THIS book is a reprint of a Paper which was read at the West Kent Medico-Chirurgical Society in November, 1898, and subsequently appeared in *The Clinical Journal.*

As the numbers of the *The Clinical Journal* containing it are now out of print, it has been suggested that I should publish it in its present form.

GEORGE HERSCHELL.

76, WIMPOLE STREET,
CAVENDISH SQUARE.

December, 1898.

CONSTIPATION AND ITS MODERN TREATMENT.

In selecting constipation as the text of my remarks, I am influenced by the consideration that a discussion upon a common affection will be productive of more real help to us in the daily practice of our profession than an academic dissertation upon a more abstruse subject. And my object is more particularly to point out that ''constipation'' is not a disease; it is a symptom merely, of a great variety of disorders. Although only a symptom, it is not as such to be lightly regarded, but every case which comes under our notice is worthy of careful study, and deserves, even from a purely scientific standpoint, a more elaborate treatment than the routine prescription of a laxative.

But first of all it is necessary to have a clear idea of what we mean by the term constipation. It has been asserted by some writers, and it will be found stated in most text-books, that constipation is a purely relative matter, and that whilst some people have a daily motion of the bowels, others may have relief at much less frequent intervals without any detriment to their health. I must say that I do not agree with this doctrine, and believe it to be as erroneous as it is pernicious, because—

1. It is more than probable that in the cases where the patient is supposed to be in perfect health with infrequent actions of the bowels, a more careful investigation would have established the fact that there were slight symptoms of autotoxis present. Such phenomena, usually supposed to indicate minor degrees of neurasthenia or nervous exhaustion, were not ascribed to their true cause or associated with the constipation.

2. Absence of a daily evacuation will sooner or later infallibly produce, in a purely mechanical manner, changes in the bowels themselves, such as dilatation or permanent fæcal retention.

3. In many of these cases there is already a morbid condition present in enlargement, either congenital or acquired, of the sigmoid flexure. The explanation of the constipation is that, as this takes longer to fill, the action of the bowels will take place at longer intervals than normal. Therefore I

think that we should define constipation in the following terms:—*Constipation is a condition in which a normal daily amount of food is taken, and its equivalent of* débris *is not daily discharged naturally from the body without the aid of artificial means.*

In pure constipation all the *débris* is eventually discharged from the body. When this does not occur, there is fæcal retention.

Very few cases of pure constipation are met with in practice, as they are nearly always complicated with some degree of fæcal retention. This may be temporary and able to be removed by purgative medicines, or it may be permanent.

In the present paper, I do not include the consideration of cases where the total amount of food taken by the mouth does not reach the duodenum, as in pyloric stenosis, but only those in which the normal amount leaves the stomach. Neither shall I speak of acute constipation, which is rather to be studied under the head of obstruction of the bowels.

NORMAL PERISTALSIS.

In order that we may rightly comprehend how constipation may arise, it is necessary that we should study the processes that precede normal defæcation. We shall then be in a position to appreciate the different factors which may interfere with and hinder its proper performance.

After the partially digested food leaves the stomach and enters the duodenum, its further progress along the alimentary canal may be divided into three stages, and in order that we may properly understand the mechanism of constipation they must be studied separately.

(*a*) First stage. The passage of the chyme along the small intestine. This ends with its propulsion into the cæcum through the ileo-cæcal valve.

(*b*) Second stage. The passage along the large intestine, and its final storage in the sigmoid flexure.

(*c*) Third stage. The actual expulsion of the fæces from the body.

(*a*) *Passage of the Chyme along the Small Intestine.*

From the moment when the chyme enters the duodenum, it moves slowly and more or less continuously through the channel of the small intestines. During this time further digestion is progressing, and absorption of soluble matters is taking place. This onward motion is effected by what are known as the peristaltic movements of the intestines. These peristaltic movements are contractions of the circular and longitudinal muscular fibres of the bowel, co-ordinated in such a manner as to force the semi-fluid intestinal contents continually onward in one direction. To understand how this takes place we may imagine the intestine to be divided into an infinite number of transverse muscular rings, each independent of the others. The circular fibres in the ring at the spot where the peristaltic movement commences, contract, and thus lessen the calibre of the bowel at that point. The next ring will then contract in its turn, and the next, and so on. After a few rings have thus contracted, the one which was first affected will dilate, and this dilatation will involve the second ring, and then the adjoining ones in succession. We have thus a length of contracted bowel, the distal end of which is advancing by involving fresh rings, whilst the proximal one is resuming its natural size. Thus we have a zone of contraction passing along the bowel. The effect of this upon the soft contents of the intestine will be precisely the same as if, having filled a thin wide tube with some pultaceous material, we were to pass over one end an inextensible ring of a smaller diameter. If we were to pull the tube through the ring we should drive its contents onwards. Such is the effect of the peristaltic movements of the bowel upon the contained chyme. At the same time the longitudinal fibres of the bowel will contract, and by shortening the tube in front of the advancing constriction materially assist the onward passage of the food. A peristaltic movement usually occurs in a short length of bowel only, and many are taking place simultaneously in different portions of the intestine. These muscular contractions are produced automatically by the presence of the contained chyme acting reflexly upon the local nerve mechanism of the bowel; and other things being equal, the more irritating the chyme, the more violent and extensive will be these movements. In the normal condition, about four hours should elapse before any given particle of food will traverse the whole distance from the duodenum to the ileo-cæcal valve.

(*b*) *Passage along the Large Intestine.*

Although the large bowel is much shorter than the small intestine, the passage of the food residues and excreted matters will occupy at least ten hours, as peristalsis is much less active. This is needful, because all the available remaining nutriment must be absorbed during its stay here.

The facility with which the food will pass along the large intestine depends very much upon the amount of cellulose which it contains. Not only is the presence of this substance essential to excite peristalsis, but, like the straw which the ancient Egyptians put into their bricks, it is needed to bind the mass into such a consistency that it can be dealt with by the intestine. So true is this that it has been found experimentally that if an herbivorous animal, such as a rabbit, be fed upon a diet from which cellulose is completely absent, death shortly ensues. The fæces cling to the sides of the bowel, and the peristaltic movements are incapable of dislodging them. It is probable that up to a certain point the presence of flatus in the large intestine assists the onward passage of the fæces.

By the time that the contents of the bowel have reached the sigmoid flexure, they have assumed the familiar character of fæces, and they are stored here until the time arrives for the next act of defæcation. In a healthy man the sigmoid flexure holds the exact amount of fæces which are discharged at any one evacuation. When it has been emptied it is refilled from the contents of the colon, and the contents of the bowel will, so to speak, move down another peg. Thus our evacuation of to-day represents the *débris* of the meal of at least the day before yesterday. It is important to bear in mind that except immediately before an evacuation the rectum is normally quite empty. Nothing enters it until the commencement of the act of defæcation.

(c) *The Act of Defæcation.*

The first part of the act of defæcation is the passage of some fæcal matter into the rectum. This is effected by powerful peristaltic movements, reflexly induced either by the accumulation of fæces in the sigmoid flexure, or by the stimulus of food introduced into the stomach. The presence of the fæces in the rectum stimulates the sensory fibres distributed to its mucous membrane, with the result that the ano-spinal centre in the lumbar cord is excited, and motor impulses are originated which are conveyed to the muscular substance of the whole length of the large intestine. By the same reflexes the lumbar centre of the anal sphincter is inhibited. The patient now voluntarily fills his lungs with air, closes the glottis, and contracts the abdominal muscles. The result is that the contents of the rectum are expelled. Such is the mechanism of the act of defæcation.

It is obvious that any defect in any factor of this complex process may produce what is known as constipation. We may conveniently arrange these abnormalities under the following heads:

1. Defective peristalsis. The *vis a tergo* is not sufficient. This may be the result of—

   (*a*) Food of an insufficiently exciting nature to the bowel.

   (*b*) Deficient irritability of the terminals of the nerves in the intestinal walls. This may be a pure local condition, or part of a general neurasthenic condition, or the reaction of over-stimulation.

   (*c*) Muscular weakness of the intestinal walls, either congenital or acquired. Most atonic conditions of the intestines are due to the fact that the innervation of the intestine is weak, not that the muscular substance is feeble.

2. Increased resistance. The work the intestine has to do is abnormally increased. From—

   (*a*) Irregular peristalsis and spasm of portions of the bowel.

   (*b*) Abnormal distension with fæces or other materials.

   (*c*) Abnormal character of fæces, especially dryness and deficiency in cellulose.

(*d*) Mechanical interference with the movements of the intestines by adhesions to other organs, or pressure from enlarged viscera or tumours pressing upon them, or by stricture of the bowels themselves, and abnormalities of position such as enteroptosis.

The final effort of defæcation may be defective from—

3. Abnormality or want of excitability of the spinal centre.

(*a*) From local disease.

(*b*) By inhibition from the brain or higher centres.

4. Weakness of the abdominal muscles.

5. Stenosis, or spasm of the anus.

It is thus evident that in any case of constipation we have a problem which may need some considerable study for its elucidation.

Diagnosis.

A patient consults us for constipation; it is our duty to find out upon what condition it depends, and what are the factors in its production;—in short, to ascertain what is really the matter with him, and not to dismiss him with a prescription for a pill containing, perhaps, cascara and belladonna. How shall we proceed to gain this knowledge?

The first thing to do is to find out whether we have to deal with a serious condition or merely a functional derangement. That is, whether the constipation is the result of some gross lesion, or whether it is essential and primary.

1. *We go carefully into the history of the case.*—A great deal of information may be derived from this. I need only mention the progressive emaciation and the pallor of malignant disease. The duration of the affection will tell us a great deal. If recent and progressive, it is likely to be due to some organic lesion: if of long-standing, it will be more usually caused by some mere derangement of function. In this conjunction it may be interesting to draw attention to the fact that constipation is very often met with in Addison's disease, and is a useful means of diagnosing between this affection and pellagra. In the latter there is nearly always diarrhœa.

2. *The next thing to do is to examine for retained fæcal matter.*—We begin with the rectum. There we shall incidentally learn whether anal spasm be

present. This, you are aware, is frequently the sole cause of obstinate constipation, especially in women. With the finger in the rectum you will readily feel any impacted mass of fæces. The patient is then to be placed on his back, with the knees slightly drawn up, and the whole course of the colon explored by palpation and percussion. It is as well to confine ourselves just at present to making out whether there are any fæcal masses to be felt, and not to try to ascertain whether any displacements be present. It is best to do one thing at a time, and thus gain our information step by step. Special attention must be paid to the sigmoid flexure, as its distension forms a common cause of constipation, the rest of the large intestine being empty.

Pain and tenderness, although frequent concomitants of acute fæcal blocking, are generally absent in the chronic cases which we have under consideration.

The next point to be presented to the mind is the result of palpation. In nearly a half of all the cases which have been under my observation, in which the action of douches has proved the existence of fæcal retention, either abnormal dulness on percussion, resistance on palpation, or an absolute lump could be made out.

As regards the diagnosis of fæcal retention in the ascending or descending colon a little manœuvre is necessary. The patient having been placed on the back, with the knees well drawn up, one hand of the physician is placed on the abdomen below the tenth or eleventh costal cartilage, while the fingers of the other hand are passed behind the patient into the posterior hypochondriac region,—that is, into the interval between the last rib and crest of the ilium. The colon can then be pressed upwards and forwards *against* the hand on the abdomen. The secret of the whole thing is that the hand in front must be kept firm and immoveable. It is only by this conjoined manipulation that it is possible to detect the slighter degrees of retention in the colon with absolute certainty, as percussion sounds may be so altered or obscured by various concomitant circumstances as to render them valueless. A little practice in this method of manipulation will soon give the requisite dexterity. However, in abnormally fat people we cannot, even by this method, arrive at a definite conclusion. The diagnosis will have to be made by flushing the colon and seeing if any old fæcal matter comes away.

It is important to bear in mind an important point. It is that whilst the finding, by palpation, of fæcal masses in the colon makes our diagnosis conclusive, the converse does not hold good, because—

1. The fæcal masses may be of small size and they may be encysted.

In some of the severest cases which I have seen nothing abnormal could be discovered on palpation. But considerable quantities of fæcal material were brought away by injections. The origin of the affection was demonstrated by the rapid improvement in the patient's condition following its removal.

2. The abdominal parietes may be so thick and fat that efficient palpation is out of the question.

It is a remarkable fact that the abdominal cavity appears able to stow away quite a large amount of fæcal material, and yet nothing shall be discovered on palpation.

It is sometimes difficult to make out whether a lump which can be felt in the abdomen is of a fæcal nature or otherwise. In a great many cases we can do this by taking advantage of a sign suggested by Gersuny.* "If the tumour be firmly pressed on with the finger, the intestinal mucous membrane adheres to the sticky masses of which it is composed; when the pressure is removed the mucous membrane slowly disengages itself, and the sign consists in the recognition of this gradual separation. The only conditions necessary for its production are a certain degree of dryness of the intestinal mucous membrane and a certain impressibility of the fæcal mass; the surface of the latter can be softened if necessary by an oil enema. The important factor in the separation of the intestinal wall from the tumour is undoubtedly the pressure of the intestinal gases. The characteristic sensation can be obtained by pressing the oiled or soaped volar surface of one forefinger into the palm of the other hand, and very slowly withdrawing it." I have found this sign to be of great use on many occasions.

---

* "Wien. klin. Woch.," October 1st, 1896.

3. *Having found no fæcal masses in the colon or rectum, the next thing to do is to ascertain the exact position of the large intestine.*—When difficulty is experienced in doing this by percussion and palpation, great assistance may be derived from distending the large intestine with gas or air. This may be effected either by means of an ordinary double ball such as is attached to a spray apparatus, or better by Illoway's method.*

An ordinary syphon about two-thirds full of soda-water is taken, and to the nozzle is attached a piece of india-rubber tubing which terminates in a colon tube. This latter is carefully introduced a few inches through the anus. The syphon is now inverted, and the lever depressed The effect of this is that the gas which is disengaged from the soda-water passes into the colon, and, being completely under control, can be made to distend it as much or as little as is desired. The colon can then be easily recognised by palpation, and it can be seen whether it is in its normal position or not. In men, the transverse colon should never be found below the umbilicus. In enteroptosis of course it is found much lower, and this condition can be readily recognised—

---

* Illoway, "Constipation in Adults and Children," [Macmillan and Co., 1897], p. 122.

(*a*) By the shape of the abdomen.

(*b*) By being able to feel the colon as a transverse cord below the umbilicus.

(*e*) By abnormally distinct pulsation of the abdominal aorta above the umbilicus, as the colon which usually lies in front of it is no longer there to cover it.

(*d*) The frequent association of a floating kidney.

4. *We must examine for intestinal spasm.*—This may exist in a general or partial form. The former is met with in lead-poisoning and in certain affections of the brain; the latter accompanies colitis, colic, hysteria, and neurasthenia. It is thus of the highest importance to know whether it is present.

In general enterospasm, the anterior wall or outer surface of abdomen is retracted and scaphoid in form. In partial enterospasm there is not of necessity anything characteristic to be discovered on palpating the abdomen, although sometimes the intestines can be felt as tense round cords beneath the fingers. This is especially the case with the colon. But a clue to this condition is usually afforded by the character of the fæces, which are either passed as small narrow cylinders or as scybala. Of course, one must be on one's guard not to confound the narrow fæces passed in enterospasm with the ribbon-like motions of stricture of the rectum. This may very easily be done as the resemblance is very great and no absolute rules can be laid down for differentiating them. The only proper course to follow is to first of all eliminate stricture of the rectum by a careful physical examination. When this has been done, the characteristic stools will point to enterospasm. A diagnostic point, mentioned by Ewald* deserves notice. In cases of enterospasm, especially of the lower segments, great difficulty is often experienced in inflating the bowel with either air or water.

5. *Atony and dilatation of the stomach.* This is a frequent cause of constipation, as there is delay in

---

* Twentieth Century Practice of Medicine, Vol. IX., p. 258.

the passage of the food into the duodenum. The most reliable sign of its presence is the production of the splashing sound below the umbilicus later than three hours after a meal. The diagnosis may be made absolute by the use of the gyromele or of the electric gastrodiaphane, or by the discovery of food remnants in the stomach seven hours after a meal by means of the stomach-tube.

In simple atony of the stomach of the first degree, in which there is stagnation of the food within the stomach and delay in its passage into the intestine, there is very often constipation. This arises partly from the fact that the gastric atony is only a part of a general want of tone of the whole gastro-intestinal tract, and is, therefore, a concurrent event; and partly from abnormality of the chyme from long retention in the stomach.

Far different is it in the case of dilatation of the stomach due to pyloric stenosis. Here, there is constipation because a smaller quantity of food than normal passes through the pylorus, and consequently the intestines are longer in filling. The acts of defæcation will in consequence occur at longer intervals, and the contents of the large intestine will become abnormally dried from their long stay in that part of the alimentary canal.

In all cases of constipation, therefore, one of the first things to do is to make out whether pyloric obstruction or atony, be respectively present. As regards the recognition of atony of the stomach, my experience leads me to believe that the only reliable sign is the finding of food residues in the stomach at a time when a normal stomach should be empty: for example, before breakfast in the morning. The salol test is difficult to use in private practice and is not always to be depended upon.

As a rule there is atony present if splashing can be obtained below the umbilicus later than three hours after a meal.

6. *The heart and liver must be carefully examined* for any condition which would impede the return of blood from the portal circulation, and thus produce venous engorgement of the intestines.

Constipation is often met with in hepatic disorders; and, according to Ewald,* may be due to acholia or venous stasis. Personally, I have often noticed this symptom in mitral disease where there was no failure of the right side of the heart.

7. *The condition of the spinal cord and brain must be investigated.* Constipation is met with in several affections of these parts, and is often an early sign in cerebral tumour.

8. *Moveable kidney.* The possibility of this condi-

---

* *Loc. cit.*, p. 461.

tion should always be suspected, as it is frequently present, although generally overlooked, in cases of constipation. It may have an important bearing on the case.

1. It may be the direct mechanical cause of the constipation.

In a case recorded by Ewald,* of obstinate constipation in a lady, who suffered from moveable kidney, an adhesion was found between the splenic flexure of the colon and the affected organ. The effect of this was that the kidney in its descent carried down with it the colon, forming a V-shaped bend. As the result of a nephrorrhaphy the constipation absolutely disappeared.

2. The floating kidney may be part of a general enteroptosis, and, equally with the constipation, a symptom of a neurasthenic condition.

9. *Weakness of the abdominal muscles must be looked for.*—One of the best tests for this condition is to make the patient try and raise himself from a lying to a sitting position without the use of the arms. This is quite impossible if the abdominal muscles are really weak.

Having made all these investigations and found nothing abnormal, we may be fairly justified in excluding any gross lesion as a cause of the constipation.

---

* *Loc. cit.*, p. 798.

There remains now to be enquired into the remaining possible causes of constipation, viz.:—

(*a*) The food of the patient as to quality, amount of cellulose, coarseness, cooking, astringency, and the condition as regards mastication in which it actually reaches the stomach.

(*b*) The habits of the patient as to—

1. Exercise.
2. Alcohol.
3. Abuse of purgatives.

(*c*) The hardness of the water which is habitually consumed.

(*d*) The existence of neurasthenia.

In some obscure cases, before finishing our investigation, it may be as well to examine the fæces by means of the centrifuge. We shall thus be able to estimate without any difficulty the amount of undigested fat, cellulose, &c., contained in it, and perhaps obtain valuable information.

We should now be in a position to make a real and true diagnosis. Not merely that the patient is constipated. That is self-evident. But we ought to know the precise cause of this condition in the case before us. Then, and not till then, shall we be justified in proceeding to treatment of any kind.

I would take this opportunity of calling attention to the fact that such an exhaustive investigation as I have here sketched out, will hardly be necessary in the slighter and temporary cases of constipation met with in daily practice. In many of these the cause is at once obvious, and the remedy sufficiently indicated. But I must repeat, at the risk of wearying the reader, that the practitioner is not justified in severe and long-standing cases of habitual constipation in inaugurating any kind of treatment until he has threshed out the exact pathology of the case in at least as complete a manner as in the scheme described.

Having now by the investigations that we have made arrived at a clear idea of the nature of the case, and of the cause of the constipation, we are in a position to initiate a treatment with some hope of success.

TREATMENT.

It would be a work of supererogation on my part to discuss the appropriate treatment of the slighter forms of constipation. This is efficiently set forth in every student's text-book of medicine.

I shall therefore confine myself to the consideration of the long-standing and obstinate forms which are so difficult to permanently relieve.

A preliminary step in the treatment of all severe and long-standing cases, is to make absolutely certain that there is no fæcal matter abnormally retained in the intestine. *This is the first thing to do, no matter what the cause of the constipation may be.* Only after this has been done shall we be justified in deciding what other measures we must adopt to try and cure the condition.

In some cases you will have ascertained by the different methods of examination already described, that fæcal matter is abnormally retained in the bowel; in others there will be symptoms present which warrant you in suspecting it; or you may have no evidence presumptive or otherwise of its presence.

In the first two instances you will certainly feel no hesitation in washing out the bowels, but in the last the question arises whether you are justified in assuming that they contain nothing abnormal, or whether it is your duty to make sure by one or two large enemata. In my opinion in cases of constipation which have not been treated with douches, you should never take for granted that there is no fæcal retention for the following reasons:—

1. It is extremely unlikely that constipation can

have existed for any considerable time without fæcal retention having occurred.

2. It is often impossible to discover fæcal retention by a physical examination of the abdomen.

3. Chronic fæcal retention does not *invariably* give rise to symptoms of any kind.

4. The constipation certainly cannot possibly be cured as long as any fæcal matter is permanently retained in the abdomen.

5. Treatment with the object of removing such deposits can do no possible harm to the patient.

The treatment will therefore be commenced by making sure that the large intestine is empty.

The physician will then have a fair start in the management of the case, with the definite knowledge that one possible factor in its causation has been eliminated.

In all cases of constipation one or more of the following conditions will be found to be present, and measures will vary accordingly:—

1. Fæcal masses blocking the rectum may be felt by a digital examination.

2. Masses may be made out by palpation in the sigmoid flexure.

3. Masses may be felt in the remainder of the colon or in the cæcum.

4. There may be no physical evidence at all of anything abnormally retained.

Any one or more of the first three conditions may be present in conjunction. They will be taken in order, and the treatment to be pursued in each case indicated as far as possible.

1. *When fæcal masses can be felt in the rectum.*—The rectum must be emptied before you can do anything more in the treatment, as obviously until this has been done no fluid can be introduced into the upper parts of the colon. In many cases a simple enema of hot soap and water will be all that is required, but in others it proves of no avail, and it is necessary to use some agent which has a solvent action. Two substances are of especial value for this purpose—olive oil and ox-gall. Olive oil consists mainly of oleic acid, which is a powerful solvent of fæces, and ox-gall acts in the same manner, but more energetically. A combination of the two forms one of the most efficient solvents of fæcal matter that it is possible to conceive. For a knowledge of this valuable property of ox-gall, the profession is indebted to Mr. William Allingham, who habitually used it in his practice over twenty years ago. It may be mentioned that this solvent action of olive oil has recently been denied by Ewald,*

---

* "Twentieth Century Practice of Medicine," Vol. IX., p. 207.

and it is quite possible that he is right with respect to certain kind of fæces, such as that derived from inspissated milk. But anyone can convince himself by direct experiment with a test tube that ordinary brown scybala are quickly disintegrated under its action.

It is quite possible that the rectum may be so tightly packed that there may be very little room for any injection to be introduced. Under these circumstances a couple of ounces of the mixture of olive oil and ox-gall may be introduced every hour until sufficient room has been obtained for a larger enema. More commonly, however, there will be found plenty of space in the rectum, but the trouble will be that the mass of fæcal matter is so hard that even the ox-gall will make very little impression upon it. Under these circumstances we may use with great advantage continuous irrigation with a double tube, and Figures 1 and 2 show a special apparatus which has been designed by myself for that purpose.

Fig. 1 shows the separate parts of which it is constructed. (A) A vulcanite tube, resembling a small Ferguson's speculum. (D) The obturator by which it is introduced into the rectum. (B) A short length of rubber tube in which a slit has been made at X, and (C) an ordinary red rubber stomach tube.

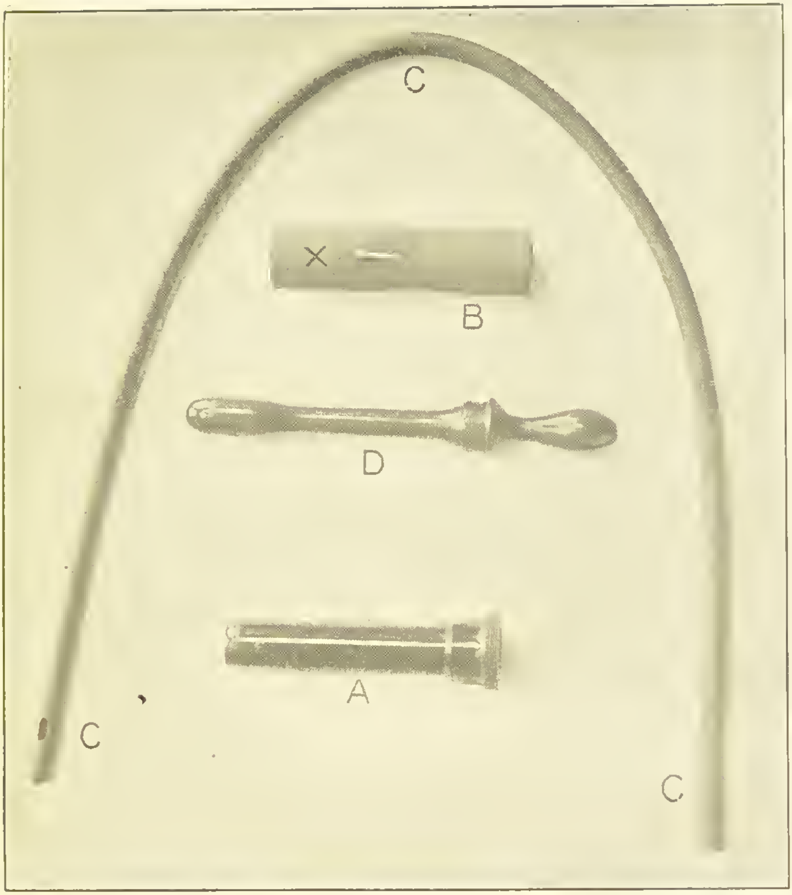

FIG. 1.

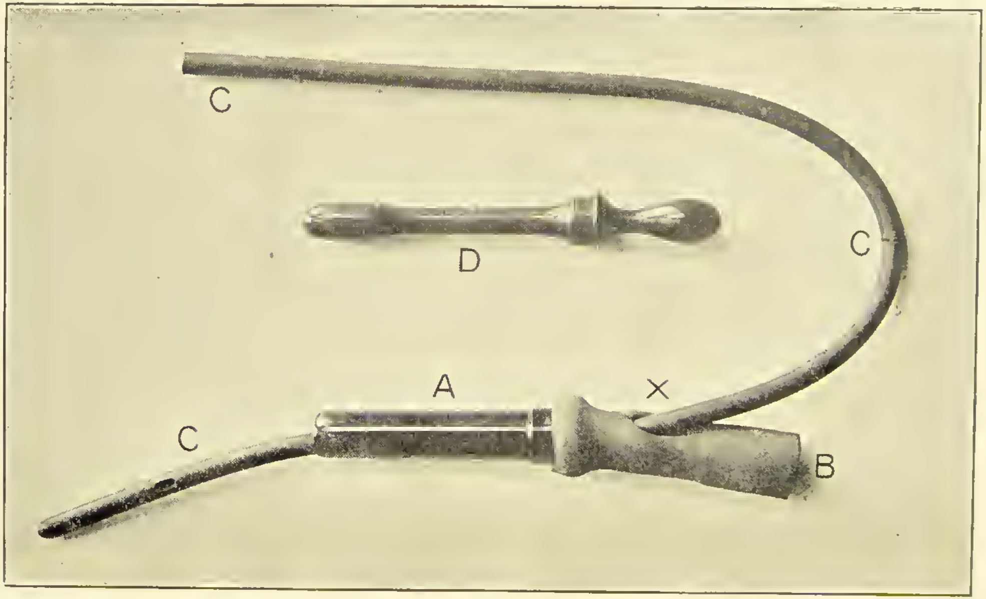

FIG. 2.

In Fig. 2 we see these parts assembled. The stomach tube has been passed through the slit X in B, and this in its turn has been slipped over the proximal end of A, the obturator D having been withdrawn.

In actual practice, the short rubber tube B is attached by means of a couple of inches or so of glass tubing of the same diameter with four feet of rubber tubing, which passes into a slop-pail or equivalent receptacle. The stomach tube is connected by means of a suitable mount with an ordinary pipe proceeding from a douche-can, which is suspended several feet above the patient.

The apparatus is used as follows:—

The douche-can is filled with water, at the desired temperature, and connected with the stomach tube which is passed through the slit in the rubber tube B. The vulcanite tube is placed upon the obturator and well oiled. The patient having been placed upon his left side in a recumbent position, and a preliminary application of cocaine having been made to the anus, the vulcanite tube with its obturator is gently passed up into the rectum. In some cases where the anus is very sensitive, it may be necessary to administer an anæsthetic. The obturator is now withdrawn, and the rubber tube B slipped over the end of A. The rubber stomach tube is now to be gently pushed on into the rectum until it projects the required distance beyond the end of A. The tap on the douche-can now being turned on, a stream of water will enter the rectum, returning by A and B, and carrying with it the *débris* which is washed from the fæcal mass. As the diameter of the efferent channel far exceeds that of the afferent, it is obvious that the rectum can never become distended.

Such an apparatus can easily be extemporised at any time by the physician from any metal or vulcanite speculum, but it is important to bear in mind that on no account must a glass one be used, as it might possibly be crushed by spasmodic action of the sphincter ani and seriously injure the patient.*

2. *When the rectum is empty or has been emptied as just described, but masses can be felt in the sigmoid flexure.*—Enemata of soap and water, olive oil and ox-gall are to be tried as above, but the technic of their administration is a little different from that used when it is only desired to empty the rectum. *Then*, an ordinary Higginson's syringe could be used; *now*, we must make use of a douche-can raised about a couple of feet above the patient. If these prove ineffectual to empty the bowel, continuous irrigation as in the case of the impacted rectum must be used. A Turck's double colon tube is

---

* The complete apparatus is supplied by Hawkesley, 357, Oxford-st.

introduced into the sigmoid flexure, an operation not at all difficult of execution; one tube is attached to a douche-can two feet above the patient, and the other one to a rubber pipe leading to the receptacle under the bed. The patient lies on his right side. This irrigation of the bowel may be kept up for an hour without the slightest damage to the patient. There is not the slightest doubt but that we owe a deep debt of gratitude to Professor Turck for placing within our reach this method of irrigating continuously the large bowel. By its aid the treatment of the various inflammatory affections of the colon is much simplified, and we are enabled to remove fæcal accumulations which were hitherto beyond our aid.

3. *Masses may be felt in the transverse or ascending colon or cæcum.*

4. *The large bowel is apparently empty.*

Our procedure in both these cases will be the same. Our object is to completely clear out any possible retained fæcal matters from the whole of the large bowel. This is accomplished by the administration on several days in succession of a douche of hot water containing a little common salt. Enemata of the ordinary size (a pint or two) are useless for this purpose, as it is tolerably obvious that to reach, for example, a fæcal mass in the cæcum, the whole of the large intestine must be filled with liquid. Into a normal adult healthy large bowel half a gallon of water can be injected without materially stretching it, and much more is required to fill the dilated colons which we so frequently meet with in cases of long-standing constipation.

The problem, then, is to introduce a sufficient quantity of liquid without exciting the propulsive efforts of the patient. This can be accomplished by attention to the following points of detail:—

1. A continuous stream must be used, not an intermittent one. You can do this by means of a douche-can suspended at an appropriate distance above the patient. With a Higginson syringe not only will the rhythmic alterations of pressure that you produce in the bowel infallibly give rise to expulsive efforts long before a sufficient quantity of water has been introduced, but you are absolutely unable to regulate the tension which you are producing.

2. The pressure under which the water passes into the intestine must be a low one. Anything above two pounds to the square inch in an adult will be dangerous, much less than this would be perilous in the case of a child. As the amount of pressure actually exerted in the bowel depends not only upon the height of the column of water (*i.e.*,

the distance of the can above the patient's abdomen), but also upon the resistance which is met with in the bowel, it is of great practical assistance to include a mercurial manometer in the circuit—that is if you wish to do your work scientifically and intelligently, and to know exactly what is taking place inside your patient. By this means you know the exact moment when the fluid, ceasing to simply to flow into the intestine, commences to distend it.

3. The temperature of the water must be about 100° F. If lower, the patient may suffer unnecessary pain.

4. The force of gravity must be called in to assist the passage of the liquid towards the cæcum. The patient must be placed in the knee-elbow position, or on his back with the hips raised. For the latter purpose it is convenient to use a special apparatus, but it can also very well be managed by raising the foot of the bed on blocks.

5. It is a distinct advantage to place the flat of the disengaged hand upon the abdomen of the patient, as by this means the rapidity with which the colon is being filled can be estimated.

6. When you have once commenced a series of flushings of the colon you must on no account stop them for longer than twenty-four hours at a time, until the appearance of the washings informs you

that all retained fæcal material has been removed. Otherwise you may make the patient very ill, as the long-dried fæcal matter being moistened and dissolved, liberates in the intestines of the patient the locked-up toxines, and such a manifestation as an attack of acute urticaria may supervene. It is advisable to add to the washing water a little table-salt, but boric acid and other antiseptic agents should not be used, as cases of poisoning have been reported from their absorption.

The method of washing out the colon will now be described in detail, because, easy as it really is, those who attempt it for the first time, without specific directions, often do not as a matter of fact succeed in introducing a sufficient quantity of water to be of any real service. Moreover, the patient can be spared unnecessary pain and annoyance by attention to a few special points.

The most essential part of the apparatus is a proper douche-can.* This should hold one gallon and two pints, and must be provided with a glass gauge graduated in ounces, by which the operator can estimate the rapidity of the flow, and the amount of liquid which has passed into the patient.

The rubber tube coming from the can should be five feet in length, and provided with a tap at its distal extremity, which can be manipulated with one hand. Its extremity is armed with a conical soft rubber anal tube of about six inches in length, with a terminal eye.

---

* To be obtained of Bailey, 38, Oxford Street, W.

The best apparatus for securing the proper inclination of the patient's body is very simple. It consists of a base-board about four feet in length, to one extremity of which is hinged a similar padded board. By a well-known device the upper board can be retained at any angle of inclination with the lower one. The patient is placed upon the apparatus in such a position that the free edge of the upper board will be level with his buttocks. In certain cases, instead of the dorsal position it is preferable to place the patient in the knee-elbow position.

The details of the administration of the douche are as follows:—The patient, dressed in warm dressing-gown, drawers, and stockings, is placed upon his back upon the padded board, which lies on the bed in such a position that the edge of the apparatus comes to the fold of the buttock. By the handles at the side the upper board is raised until the inclination of it with the lower one is about 20°. All exposure is avoided by placing a towel across the patient's thighs. Nine pints of water, at 100° F., are now placed in the douche-can together with as many grains of common salt as will produce a normal saline solution of ·75 grain per cent. We now see that the taps of the apparatus are shut, and raise the can to the determined position above the patient. Every foot we raise it will give us half a pound pressure to the square inch in the bowels of the patient. We now open the upper tap, and then the lower one, and allow a pint of water to flow through the apparatus. This shows us that it is in running order. As soon as the level of the liquid in the gauge has sunk to the gallon mark we close the lower tap near the distal end of the tube, and we are now ready to commence the operation. The operator now takes his stand at the right-hand side of the patient as he lies in bed, and lubricates the anal rubber tube held in his right hand with a piece of soap which the nurse is holding ready for him. Putting the hand holding the tube under the patient's right thigh as he lies in bed, he introduces it into the anus without exposing him in any way. The left hand is then placed upon the patient's abdomen, where it remains during the whole operation to check the effect the injection is producing upon the abdominal viscera. With the thumb of the right hand the tap is turned on, and the water, which has by this time fallen about a degree in temperature, allowed to pass into the rectum.

As soon as the patient complains of pain or discomfort we at once turn off the tap, and wait for a short time to allow the spasm to pass off. Remember that if the water is introduced too rapidly it will cause pain, likewise if it is too hot or too cold. After as much liquid has been introduced as the patient can bear the tap is turned off, the tube withdrawn, the support is lowered into the horizontal position, and the patient told to lie on his back as long as he can possibly retain the injection.

If the mercurial manometer is used, it is attached to a chair or the pillow of the bedstead at the level of the patient's body. At first the rise in the column of mercury will be slight, as the fluid is passing into the bowel without meeting with any resistance. As, however, the bowel fills up, the column of mercury will rise until it registers the maximum pressure which the height of the can above the patient will produce. On more than one occasion when using it I have been informed, by a sudden fall in the column, of the fact that the fluid in the bowel had found its way past a fæcal mass which was blocking the passage.

It is important to bear in mind, if any considerable amount of pain is caused with less than a pressure of one pound to the square inch, that there is probably an inflamed condition of some part of the large bowel. In such cases either the operation must be discontinued, or the operator must content himself with introducing a comparatively small amount at a much lower pressure.

Whatever is brought away by the douche should be carefully examined by the physician, as it is of the utmost importance to ascertain whether the diagnosis of fæcal retention is correct.

Fæcal matter may be known to be old by—

1. Its colour. This is dark green, brown or black, except in cases where the patient has been for a long time on a purely milk diet. In this case it is whitish or putty-colour, but very sticky and plastic. It is important not to be misled by the colour which is given to the stools by iron, bismuth and certain articles of diet, as well as by the presence of altered blood in the stools.

2. Its consistency. This is hard unless it has been artificially softened by the use of oil or by other measures.

3. Form. It is usually in the form of scybala—small lumps rounded either by attrition, or moulded by the pockets of the colon in which they have been so long retained.

These douches are best given in the evening, in order that the patient may be able to lie still for some hours afterwards. This is important, as the introduction into the abdominal cavity and the removal from it of such a large quantity of liquid is apt to disturb the circulation. The treatment thus given will not interfere with the daily avocations of the patient. In severe cases, and where there is the slightest suspicion of inflammation, he should lie up during the period that the treatment lasts.

The douches should be continued every day until the washings show that all fæcal material has been removed. If discontinued before this is the case, auto-toxis is not unlikely to ensue. I have met with several cases in which this took place. One in particular which I saw last year in consultation, impressed itself very strongly upon my mind. In this instance the patient refused to take any more douches after the third one, although many dark and hard scybala were coming away. The second day after the last injection she had an attack of most acute urticaria accompanied with general malaise. This promptly disappeared on resuming the douches, which removed a further large quantity of inspissated fæcal material. The dry scabala are probably almost innocuous whilst undisturbed, but when softened by douching, they free the toxines which they contain.

Although a series of large douches as described above are of the utmost use for the specific purpose of emptying the bowel in order to commence the treatment of the constipation, patients must not on any account be allowed to repeat them, as they are prone to do, whenever they imagine that the bowels have become abnormally full. If the case is properly and scientifically treated they will probably not be required again, or only at rare intervals. Whenever they are given it must be under the immediate observation of the physician. Whilst five or six are harmless, yet when given at all frequently they are very relaxing to the muscular substance of the intestine, and if persevered in, will effectually take away any chance which the patient has of eventually being cured of his constipation.

These points are well illustrated by the two following cases which were under my own immediate observation.

Mrs. H—, aged 50, consulted me in October, 1897. She had been troubled with constipation since the age of ten years, and for the last year or two her bowels, if left to themselves, would only be opened every ten days. She had taken all kinds of purgative medicines, with only temporary relief, until five months ago, when she began, on the advice of some friends, to give herself every week a large enema of warm water of sufficient bulk to wash out the whole of the colon. At first this acted in a very satisfactory manner, and ceasing entirely to have natural evacuations she periodically washed out her bowels as often as they became loaded enough to cause discomfort. Her health at first was very much improved, her appetite was good, and she felt an unusual amount of *bien-aise.* But about two months ago she began to suffer with indigestion and flatulence, and she observed that apparently the whole quantity of liquid introduced by the douche did not come away, sometimes as much as half a gallon being retained. She had also now to use much larger douches than at first in order to relieve the bowels.

On examination she was seen to be very sallow, with a dry and unhealthy skin, and had a considerable number of pigment spots on the fore-arms. The abdominal walls were thin and flaccid, and there was evidently, to a moderate extent, enteroptosis. I commenced treatment by instructing her to leave off the intestinal injections, and to take three grains of the solid extract of cascara three times a day. My object in doing this was to ascertain if possible whether the bowel was still able to react to a moderate degree of stimulation. As the bowels had not acted after thirteen days I washed them out, stopped the cascara, and commenced the daily application of the electrical current from the coil to be presently described.

Every third day a moderate douche was given to partially empty the bowels. The first indication of improvement was noticed after the thirteenth application of electricity, when the patient had a natural inclination to stool, followed by a small evacuation.

A pill of two grains of the solid extract of cascara sagrada was now prescribed every night, and this in conjunction with the daily application of the electricity, produced sometimes one and more frequently two, natural actions of the bowels. No douches were required after the twentieth application of the current. After the fortieth time the treatment was given only on alternate days, and after fifty applications the cascara was discontinued. Exercises for the abdominal muscles were now substituted for the electrical applications, and the patient was dismissed with the direction to continue these indefinitely. Her bowels have continued regular since the termination of the course of treatment without the aid of any purgative whatever.

Miss J. F—, æt. 41, a domestic servant, was sent to me by my friend Dr. E— in January of 1898 as a case of incurable constipation. Her history was that she had been in very poor health since a great mental shock which she had sustained about twelve years ago. She gradually lost strength, and to some extent control over her legs. She suffered from indigestion, loss of appetite, and a feeling of faintness after very slight exertion. With this was associated very obstinate constipation, and at the time she came under the treatment of my friend, the very strongest purgatives appeared to have lost their effect. Dr. E—, very rightly grasping the fact that the neurasthenic phenomena were probably due to the absorption of toxines from the gastro-intestinal tract, commenced in May, 1897, to wash out the large intestine with large douches given in the manner advocated by me. The correctness of his deductions was verified by the result, as on the removal of enormous masses of fæcal matter her symptoms practically disappeared. But the constipation remained, and it was found that the bowels could only be opened by the use of very large enemata, of which she had forty or fifty between May, 1897, and January, 1898.

She was admitted into hospital, on January 26th, 1898, and was put to bed. On a physical examination there were no abnormal signs, with the exception of a considerable degree of abdominal relaxation. She was kept in bed on ordinary diet, and no medicine was given except a little infusion of gentian. On January 31st, there having been no action of the bowels since admission, she was ordered the daily application of the ordinary faradic current to the abdominal muscles, and to the colon in lengths, at the same time being being given salol by the mouth with the idea of limiting intestinal putrefaction. On February 3rd, there having been no evacuation, a douche was given, but without result; and this being repeated, there followed a copious action of the bowels on February 6th, followed by three slight ones on the two following days. On February 17th, treatment was begun with a large primary coil, especially wound with very thick wire for use in electric baths. When the contact breaker of this apparatus is arranged to give slow interruptions, very powerful contractions are produced in the abdominal muscles. A large flat electrode was placed over the lumbar region and kept there, the patient lying on it, at the same time that the other pole was applied in succession to the different parts of the abdominal wall. The patient was also made to go through certain exercises daily, calculated to develop the abdominal muscles. On February 20th, 21st, 22nd, 23rd, there were two actions of the bowels on each day, and subsequently one daily until the end of the month. On March 1st a pill consisting of two grains of the solid extract of cascara was ordered to be given every night, and the electricity was diminished. On the 7th the electricity was discontinued, and the patient given a pill three times a day containing a grain of hydrastin, a third of a grain each of euonymin, alum, powdered ipecacuanha, with a tenth of a grain of extract of belladonna. From this time until her discharge on March 14th the bowels were regularly moved every day.

The lessons which we may learn from these two cases are, I think,—

1. That it is not safe to give many enemata of large amount, unless we also take steps to improve the tone of the abdominal muscles.

2. That even in apparently hopeless cases, where purgative drugs have quite ceased to be efficacious, and the ordinary secondary faradic current produces no good result, we may still restore tone to the abdominal muscles by the current from a primary coil of thick wire slowly interrupted.

3. That when we have done so we may hope to perpetuate the good result obtained by the daily use of exercises for the abdominal muscles, with or without a small daily dose of cascara or aloes.

We have now got so far in the treatment of our case that we are quite sure that there is no retained fæcal matter in the large intestine. We have now to restore tone to the muscular and nervous tissues of the bowel itself, and to the abdominal walls. We have five practicable means of doing this: hydrotherapy, electricity, massage and its substitutes, gymnastics, and drugs.

Hydrotherapy.—Water of different temperatures can be used with advantage to restore muscular and nervous tone, if we know how to employ it. A simple hot or cold bath will do very little in this direction, but by the use of each in alternation a remarkable effect can be produced. The primary effect of the application of hot water to the skin is to dilate the capillary vessels. This is shortly followed by contraction. If we seize the moment when the capillaries are about to contract and apply cold water we shall intensify this contraction, and exercise a distinct and permanent tonic effect. Likewise, if we immerse the whole body in cold water, we produce very little result; but if we limit the application to one part, such as the spinal column or the epigastrium, a differential effect is produced. There are several hydrotherapeutic procedures especially useful in the treatment of constipation.

1. *Ice massage of the abdomen.*—This we owe to Professor Turck, as well as several other valuable methods of treatment. The patient first of all takes a hot bath at as high a temperature as he can comfortably bear. He then lies upon a flat surface, and the whole of the abdomen is rubbed and massaged with a cake of ice. The effect is a very powerful stimulation of the stomach and intestines, and of the solar plexus. Instead of holding the cake of ice in the hand, the operator may place it

in a rubber bag, which Professor Turck has designed especially for this purpose.

2. *The cold abdominal douche.*—This is of great use in the treatment of constipation, and one of the best methods of applying it is the following:—The patient lies down in an ordinary bath containing enough warm water to cover the whole of the body except the abdomen. An attendant then pours from a height of two or three feet a jug of water upon the abdomen. At first this water may be tepid, but day by day the temperature must be reduced as the patient becomes accustomed to it, until it is finally icy cold. The height above the patient is also gradually increased, and also the number of jugs used.

3. *The cold spinal douche.*—The patient kneels in a tub containing a little warm water, and leans slightly forward. Jugs of cold water are poured down his back in exactly the same way as directed for the abdominal douche.

4. *The cold wet sheet.*—This has been specially advocated by Glatz,* who gives the following directions for its application:—"La friction au drap mouillé excitante et tonique s'exécute de la manière suivante: un drap de grosse toile écrue est trempé dans l'eau froide, puis fortement tordu. Le doucheur

---

* Dyspepsies Nerveuses et Neurasthenie, Lyon, 1898, p. 24.

applique ce drap sur le corps du baigneur, en ayant soin de l'enrouler et de la serrer autour des extremités inférieures...........Lorsque le patient est enveloppé dans le drap mouillé, le baigneur fait avec le plat de la main d'énergiques frictions sur le corps, jusqu'à ce qu'il ait communiqué une chaleur intense à la peau. Le drap est alors enlevé, l'operation finie.

"Cette application du drap mouillé est stimulante et révulsive, et par conséquente tonique et décongestive. Elle représente en petit les effects de la douche froide et de la douche écossaise."

There is no doubt but that this treatment is exceedingly useful in cases of neurasthenia, and as it can very well be carried out by patients with the assistance of their domestic servants, is especially applicable to private practice.

5. *Friction with the wet towel.*—This is more stimulating if the water used contains some sea-salt. If Tidman's salt be used, it should be placed in a bag of coarse muslin, and immersed in about half-a-gallon of water overnight. In the morning the bag is taken out, and if the weather be very cold or the patient unaccustomed to cold bathing, a little warm water may be added. A large soft Turkish towel is well wetted with the salt water and the patient standing up is well rubbed all over with it.

He should then be gently dried and should immediately dress. Brill's salt, in packets, may be placed in the water immediately before using, as it dissolves at once.

Electricity.—This agent is of extreme value in the treatment of obstinate constipation, and is practically indispensable. It may be employed for three purposes:

1. To tone the innervation of the intestines.
2. To restore tone to the musculature of the bowels themselves.
3. To strengthen the abdominal muscles.

To restore tone to the nervous supply of the intestines.—For this purpose we make use of the continuous current. The method is extremely simple, and consists in the stabile application of the electrodes with frequent reversals, to the different ganglia from which the abdominal viscera receive their nerve-supply.

It is, however, necessary to be provided with a proper battery, without which nothing can be done. The absolute minimum with which good work can be done is a set of thirty cells, preferably connected up in series, with a current reverser, rheostat and galvanometer included in the circuit. The best rheostat that I have ever seen is Willm's current controller, and is made by the Chloride of Silver Dry Cell Company of Baltimore.* It is perfectly efficient, permits of the finest gradations of current, and possesses the great advantage of being applicable also to the faradic current.

It is best to commence by applying the cathode to the epigastric region, where it acts presumably upon the solar plexus, whilst the anode is placed in succession upon the ganglia of the sympathetic in the neck stabile for one or two minutes each, with a current strength of 1—3 milliampères. The anode is then placed on the back of the neck over the seventh cervical spine, and about 10 milliampères of current allowed to pass for 10—15 minutes, the direction of it being repeatedly reversed, the cathode remaining in its original position. The abdominal electrode is then placed in succession on each side of the umbilicus for a few minutes respectively.

To restore tone to the musculature of the intestines.—Recent experiments show that it is difficult to produce contraction of the muscular walls of either stomach or intestines by either the galvanic or the secondary faradic currents when applied to the body by means of external electrodes. But my observations lead me to believe that this can be done by a coil of a special kind. I am alluding to the primary coil wound with very thick wire. I believe that this was introduced to the profession by Dr. de Watteville, and was designed for use in giving the faradic bath.

---

* A suitable battery, fitted with the Willm's controller, is manufactured by Isenthal and Posner, 85, Mortimer Street, W., who also supply the several electrodes described in the text.

Such a coil is represented in Fig. 3, and may be conveniently wound in such a manner that two strands of wire can be selected and used for applications to the abdominal walls, whilst the remaining four or five are available whenever it is desired to use it for the administration of the electric bath. It is also of great advantage to be able to regulate the intensity of its action by means of a rack and pinion, shown in the Figure at R.

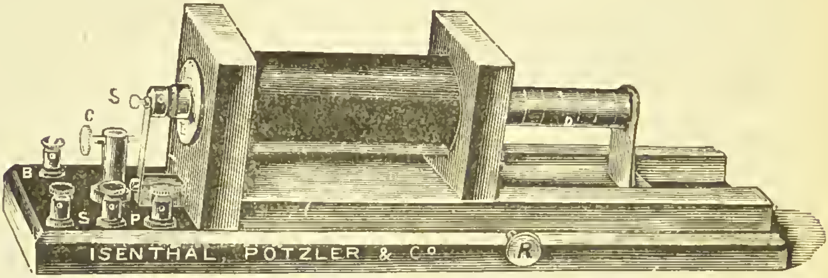

FIG. 3.

One of the best methods of securing slow interruptions is that of Prof. Ewald, in which the excursus of the armature is limited by a moveable stop; but for all practical purposes the usual sliding weight if carefully adjusted will do everything required. A lengthened experience of the use of such a coil has proved to me that it is of very great value in the treatment of atonic conditions of the stomach and intestines, and anyone can demonstrate to his own satisfaction, by means of the salol test for the mobility of the stomach, that peristaltic movements are really set up by it. The two cases recorded on page 38, are examples of the really marvellous results which can be produced by its intelligent use. To apply it, first of all place a large electrode of at least fifteen square inches in area on the lumbar region of the patient or under the buttocks, and connect this to the anode. To the other pole fasten a flat sponge or felt-covered electrode of about nine inches square. Place this in succession upon points in the course of the colon, commencing at the cæcum and finishing in the left iliac region. The current strength is to be just sufficient to throw the abdominal muscles into visible contraction. The interruptions are not to exceed 200 a minute. The whole procedure is then to be repeated several times, making the *séance* of about ten minutes' duration.

To strengthen the abdominal muscles.—For this purpose the ordinary faradic secondary current may be used, preferably with a roller electrode; but the primary coil wound with thick wire, described above, used with slow interruptions will probably give better results.

The electrode which I usually employ in applications to the abdomen is a large wooden sponge holder, which was designed by me in 1889* for general faradisation (Figs. 4 and 5). It consists of three parts only:—A knob (A) containing a female screw; a metal plate (G), from the centre of which rises a male screw (F), terminating in a binding screw (B); and a wooden disc (C), on the lower surface of which is cut a groove to receive the upturned edge of the aforesaid plate (G).

In the centre of the wooden disc is cut an aperture large enough to allow the male screw and its terminal to pass easily through.

To insert a sponge, which should be a large flat piece of the kind known to the trade as "elephant's ear," spread it out flat upon the table and place the electrode upon its centre, the knob having been unscrewed as far as it will go and the male screw pushed down, thus leaving a gap between the plate and wooden disc.

The relative positions of electrode and sponge are shown in Fig 4, which exhibits a side elevation.

---

* A new sponge electrode for general faradisation. *Lancet*, II., 1889, p. 270.

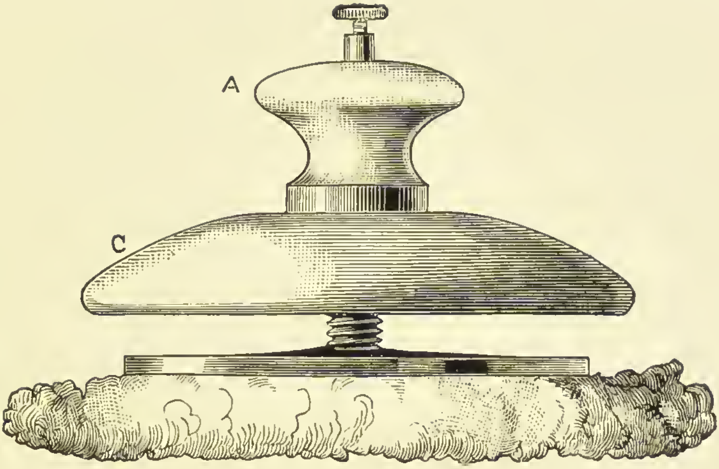

FIG. 4.

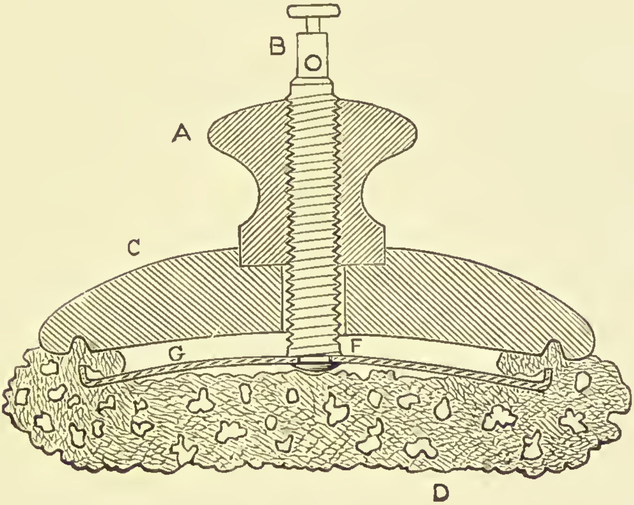

FIG. 5.

The next step is to tuck the edge of the sponge all round with a paper-knife into the gap between the edge of the plate and the wooden disc. The knob (A) is now screwed well home. To remove the sponge, the process is reversed. Fig. 5 shows a section of the electrode with the sponge in position; its edge being firmly held between the upturned edge of the plate and the rebate on the under surface of the wooden disc.

The advantages of this electrode for abdominal work are:—

1. Its large size (4½ to 5½ inches in diameter).
2. The ease with which the sponge can be removed and replaced.
3. Its firmness, which enables a considerable amount of massage to be performed with it.

In using it the palm of the hand is placed flat upon the upper surface of the wooden disc, the knob being grasped between the roots of the thumb and forefinger.

For internal application of electricity to the rectum, one of the most convenient electrodes is Turck's gyromele cable. With this it is impossible to do harm, and it is not necessary to previously inject water into the bowel. If well wetted and soaped the sponge covered end will easily pass the sphincter, and may be gently pushed up as far as the sigmoid flexure. The faradic current should be employed; the positive pole internally, whilst the negative one is applied by means of a large plate electrode to the left lower segment of the abdomen.

Whilst usually the external application of electricity is all that is needed to restore tone to the bowel, yet in some cases it may be necessary to have recourse to internal faradisation. This is notably the case under the following conditions:—

1. After the removal of large masses of fæcal material from the rectum, there is generally left a condition of atony which persists for a long time and is very difficult to remedy. In such cases the internal administration of electricity has, in my hands, often given brilliant results.

2. Atony of the rectum, resulting from long continued disregard of the calls of nature. As we have seen (page 8), normally the entrance of fæces into the rectum provides the stimulus for the immediate performance of the act of defæcation. If these afferent nerve impulses are continually inhibited by conscious effort on the part of the patient, a time inevitably comes when the presence of fæcal material in the rectum will fail to give notice of its presence. The sensibility of the nerves has become dulled and

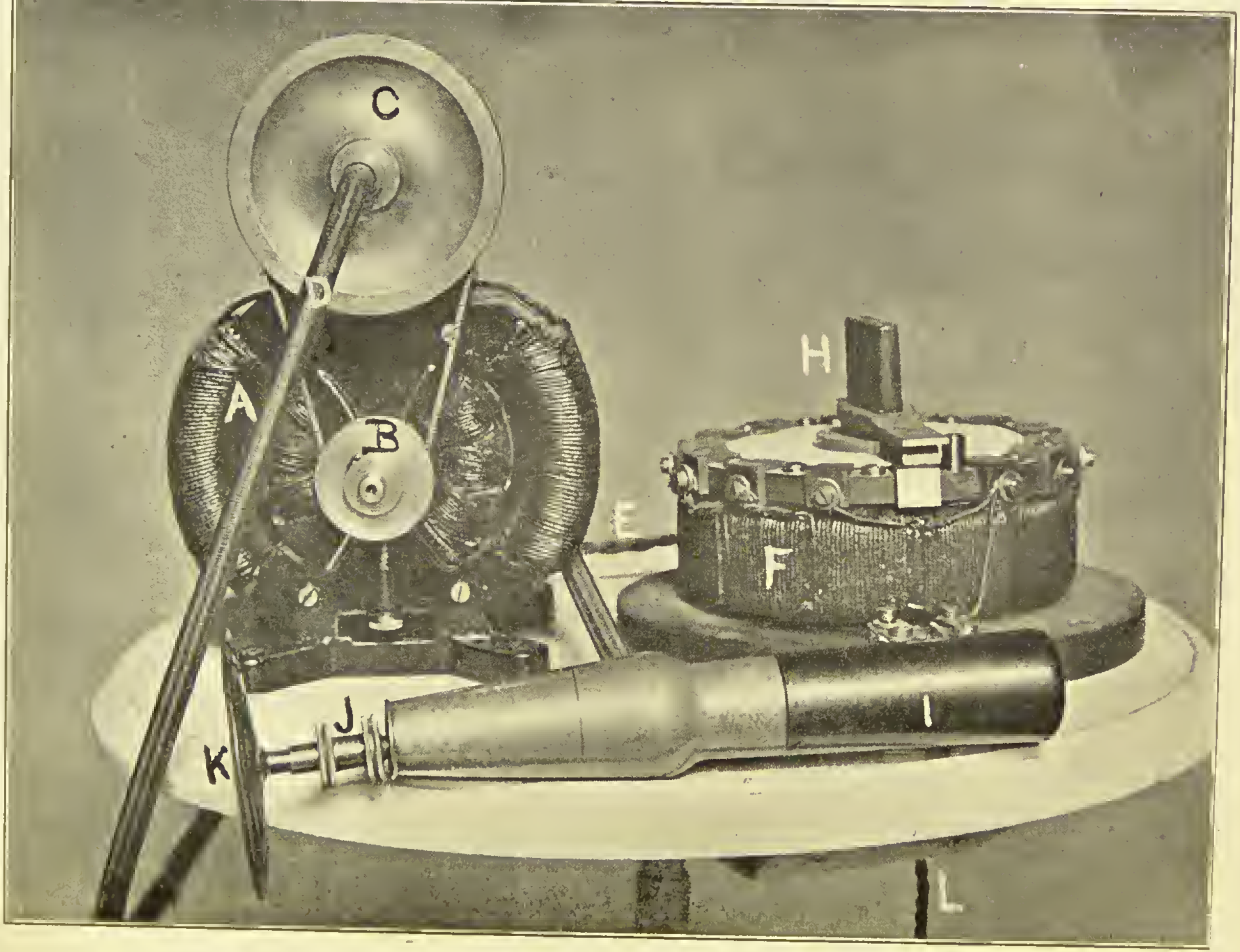

FIG. 6.—A. Motor. B, C. Geared pulley. D. Cable. E. Wire. F. Choking coil. H. Thumb-piece. I. Handle. J. Oscillating bar. K. Contact. L. Cable.

blunted, and the patient is driven to provide an extra stimulus by means of glycerine suppositories, or injections.

3. In dilatation of the sigmoid flexure.

Massage.—It is probable that ordinary massage has been much over-rated as an agent in the treatment of atony of the intestines, as it has disadvantages which should prevent its routine use in every-day practice. The two chief objections are the following:

1. To be of value in constipation it requires such special technical knowledge that unless administered by the physician himself it is useless. Few of those who practise massage, with whom the market is at present flooded, have had an opportunity of acquiring this.

2. Massage administered by the average masseur may be *actually dangerous* in cases of constipation. Few of the operators who have been trained in the usual way know enough to render their manipulations of the abdomen even reasonably safe in some of the conditions met with in constipated patients. That my contention of the danger of massage even given by an expert is correct will, I think, be apparent to my readers if they will peruse the following extract from the latest pub-

lished work on constipation.* The directions are for "manipulation intended to break up accumulated fæces," presumably in the cæcum. We are instructed that—

"The extended fingers of both hands are placed over the cæcum, and then with the pulps of the fingers deep pressure is made, so as to break up the accumulated and hardened material by pressing it down against the posterior wall of the pelvis."

Yes, by these means we may certainly break up accumulated and hardened material in the cæcum, but only at the risk of forcing some of it into a widened appendix, or rupturing the cæcum itself. Besides, there is danger that what the innocent masseur or masseuse takes to be a mass of accumulated and hardened fæcal material may really be an inflamed and thickened appendix, pyosalpinx, an ovarian cyst, or a mass of intestines matted together by a previous local peritonitis. A far better and safer method of dealing with such an abdominal or pelvic collection would be the series of large douches already described. The advocates of massage in the treatment of constipation claim that it stimulates the circulation in the intestinal walls, that it will provoke fibrillary contraction of their muscular fibres, and that it will stimulate and exalt the functions of the nervous system which presides over the functions of the abdominal viscera. I believe that all these effects can be secured better, safer, and more rapidly by the use of mechanical vibration.

---

* Illoway, "Constipation in Adults and Children" (Macmillan & Co., London, 1897), p. 221.

The earliest use of vibration as a therapeutic agent was probably by Ling, followed by Zander, who had already been for some time treating various nerve troubles with it when, in 1877, Hovath* made a preliminary communication upon the subject to the Société de Biologie. In the following year he published a systematic paper dealing with the influence of rest and movement upon life, and in which he claimed to be able to sterilise a fluid containing germs by the action of prolonged shaking. In the same year Vigoroux,† working in Charcot's clinic at the Salpêtrière, commenced to try the effect of systematic vibration in certain forms of nervous disease. As he appears to have worked chiefly upon hysterical subjects, his results must be discounted, but on more than one occasion he appears to have materially relieved the pains of tabes. In 1880 Reinke published a valuable paper upon the effect of vibration, in which he stated that the growth of germs was distinctly retarded by acoustic vibrations. In the same year Baudet* pointed out that it was easy to produce local anæsthesia by mechanical vibrations, and that in this way various pains could be efficiently treated.

---

* Alexis Hovath, "Ueber den Einfluss mechanischer Erschütterung auf die Entwicklung der Spaltpilze," "Pflüger's Archiv," Band XXIII., 1880, p. 434.

† Vigoroux, "Progrès médicale, 1878, p. 746.

The first English worker in this field appears to have been Mortimer Granville, who, after several articles in the journals during 1882, published in the following year a small book dealing very fully with the technic of the subject.† The instrument which he devised for the purpose of producing the vibrations consisted essentially of a powerful electro-magnet, which was fitted with a vibrating armature on the principle of the contact-breaker of a faradic coil. To this armature was attached a rod terminating in a disc or brush for application to the patient. The whole contrivance was portable, the electro-magnet being covered with leather and held in the hand. It was possible with this instrument, by shifting the platinum contact, to get vibrations at two different speeds. The disadvantages attaching to the instrument were—

1. The difficulty of maintenance. Owing to the

---

* Baudet, "Traitement de la doulour par les vibrations méchaniques," "Progrès médicale," 5 février, 1881.

† Mortimer Granville, "Nerve Vibration and Excitation," London, 1883.

large current required to work the machine, the platinum contacts required to be frequently renewed.

2. The effect of its application was not a true vibration, but really a rapid succession of blows. When pressed firmly upon a bony surface the subjacent parts were thrown into vibration, but this was an antero-posterior one, and not a lateral movement.

Since Granville's book the chief writings upon the subject which have appeared are articles by Schmidt,* Meltzer,† and Charcot.‡ The most important of these is that of Meltzer, whose experiments are of great interest. He shows us conclusively that vibration produces a direct shaking up of molecules, of which the ground substance of cells is composed. It is therefore *a priori* most probable that vibration will affect metabolism in some way or other. He concludes, as the results of his observations, that vibration modifies nutrition, and maintains that growth is stimulated by mild vibration, and that strong vibration produces rapid catabolism.

---

* Schmidt, "Ueber den Einfluss der Bewegung auf das Wachstum und die Virulenz der Microben," "Archiv für Hygiene," 1898, Bd. XIII.

† Meltzer, "The Importance of Vibration to Cell Life," "New York Medical Journal," December 24th, 1892.

‡ Charcot, "La Médecine vibratoire," "Le Progrès médicale," 1892, p. 131.

Although, on searching the literature of the subject, we find that vibration has been extensively used in the treatment of functional nerve disorders, yet no attempt appears to have been made to apply it locally for the relief of atonic conditions of the gastro-intestinal tract.

The best apparatus for applying vibration to the abdominal viscera is a contrivance invented by Liedbeck, a Swedish physician, and patented by him in his country. In its form as sold by him it was run by a system of geared wheels turned by hand by means of a crank; but by discarding this part of the machine, and attaching it to a suitable electro-motor, a very efficient contrivance is obtained, which will do everything that is required.

The apparatus, as will be seen from the accompanying photograph (Fig. 6), consists of the following parts:

The handle (I).—This contains an oscillating bar (J) to which reciprocal motion is communicated by means of an excentric on the axis, into which the cable (D) is screwed by means of a suitable socket. This bar carries at its distal extremity a socket to receive the pin or stud which projects from the centre of the contact (K), to be presently described.

The contacts.—These are the parts of the appa-

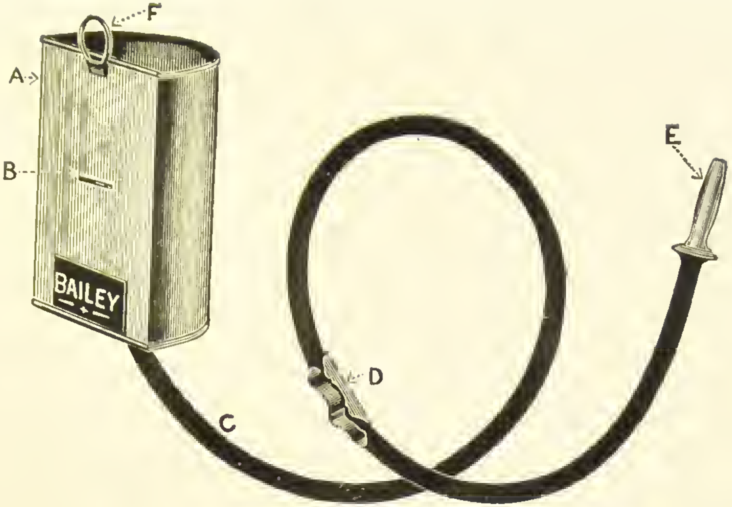

FIG. 7.

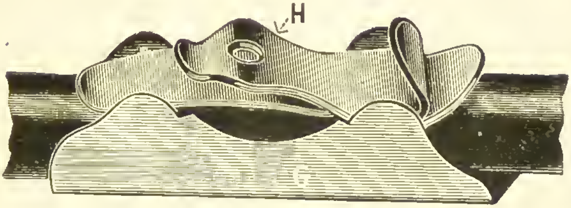

FIG. 8.

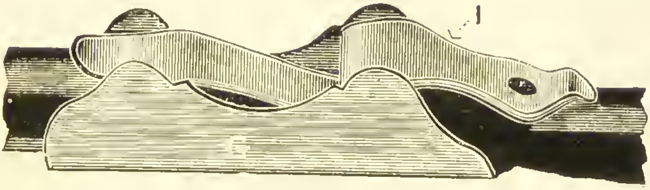

FIG. 9.

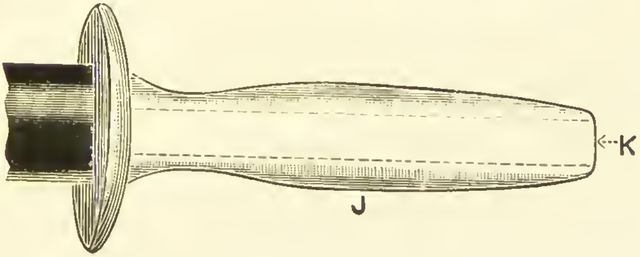

FIG. 10.

ratus which are actually applied to the body of the patient, and are of various forms—disc, rubber bulb, metal bulb, and leather pad. The one most generally useful is figured in the illustration (K), and consists of a disc of corrugated metal, carrying at its centre a pin for attachment to the moveable part of the handle.

The cable (D).—This serves to communicate motion from the motor to the axis of the handle, and consists of an overplaited spiral. At each end is a male screw for attachment to the driving-wheel of the motor and the axle of the handle respectively.

The motor (A).—The motive power in the original Swedish instrument consisted of a box containing a geared train of cog-wheels, by which the revolution of a handle on the outside of the box would communicate a velocity of about 200 revolutions a minute to the cable. The drawbacks to this arrangement are the necessity for the services of a third person to turn the handle and to hold the box steady, the impossibility of securing anything like a uniform speed without a prolonged period of practice, and the difficulty of obtaining a suitable velocity. To overcome these difficulties, I had an electro-motor constructed which, with a 100-volt current—such as is supplied to houses for lighting purposes—gives a velocity of the main shaft of

2000 revolutions a minute. This, by the geared pulley (C) attached, is reduced to a uniform velocity of 200 revolutions actually communicated to the driving cable. The addition of a choking-coil (F) enables the number of revolutions a minute to be varied at will between 50 and 200. The choking-coil is actuated by the thumb-piece (H), and connected with the motor by the wire (E), and with a wall-plug by the cable (L).*

The technic of vibration as applied to the cure of constipation.—The patient lies upon a flat and firm couch, on the right hand side of which the operator stands. The aforesaid motor, screwed to a suitable table, is placed at such a distance from the couch that when the vibrating disc is applied to the abdomen of the patient the cable is kept on the stretch. With the left hand the operator holds the handle of the vibrator, with his right he controls the choking-coil. It is best to commence by placing the disc on the epigastric region, and, holding it lightly applied to the skin,—in fact, resting by its own weight,—cause it to vibrate rapidly for about two minutes. It is now placed on the region of the cæcum and vibrated much more slowly. After remaining a couple of minutes in this position, it is slidden slowly along the course of the colon, moving at the rate of an inch a second, until it reaches the left iliac region. Here it is allowed to remain several minutes. It is then replaced in the right iliac region, and the process repeated. The sitting is finished usually by passing the vibrating disc once or twice up and down the spine, the patient being in a sitting position, and firm pressure being made.

---

* The motor was manufactured by Mr. Geere Howard, of 10, Berners Street, W., who is prepared to supply the complete apparatus.

The results of this method of treatment have proved very gratifying, and not unfrequently an immediate action of the bowels has been produced shortly after the sitting. Many cases of habitual constipation have been successfully treated by vibration alone, but it is probably better to employ in conjunction with this the galvanic current for its action upon the splanchnics and solar plexus. If there be evidence of weakness of the abdominal muscles, the patient must also practise each day the gymnastic exercises to be presently described.

Gymnastics.—The object of gymnastic exercises in the treatment of constipation is to strengthen the abdominal muscles, which play so large a part in the act of defæcation. Weakness of the abdominal muscles is a much commoner condition than is generally supposed. It may be accounted for by the fact that very few of the ordinary forms of exercise act to any extent upon them. There are three special exercises which are of great value in restoring power to the muscular walls of the abdomen.

1. The patient, lying flat on his back, places some pillows on his feet. He now places his hands on his abdomen and raises himself slowly into a sitting position. Afterwards he slowly lowers himself until he is lying flat, as at first. This is one of the most powerful exercises for the abdominal recti.

2. The patient lying on his back raises both legs from the couch until they are pointing upwards at right angles to the trunk. They are then slowly lowered.

3. The patient hauls at a rope fastened to a ring or staple in the floor. This will throw into action the oblique muscles of the abdomen, which it is very difficult to influence in any other way.

For this valuable exercise I am indebted to Dr. Harry Campbell, who pointed out to me that abdominal obesity is hardly ever met with among sailors, who are continually hauling ropes. With a little ingenuity, an apparatus could be devised in which an endless rope passing through a braked pulley would give an exact imitation of the muscular effect of hauling up a sail or its equivalent.

These exercises should be performed every morning and night, at first only once each, gradually increasing the number of times as the weakened muscles regain strength.

There are several other exercises which are of considerable use in strengthening the abdominal muscles. One of the best is the following:—Take a moderately heavy pair of dumb-bells, and place one on each side of you on the floor close to the outer side of the feet. Stoop and grasp one in each hand. Gradually straighten the back until you are quite erect, letting the hands hang at full length by your sides. Now bend each arm until you have brought each dumb-bell into the corresponding armpit. Still keeping them in this position, raise yourself upon your toes. Lower yourself gradually, and reverse the successive movements until the bells are again upon the floor.

Another exercise I have found of especial value in those inclined to *embonpoint*:—Take a moderately heavy pair of dumb-bells, one in each hand, and lower them in the direction of your toes until they are as near the floor as you can manage to get them. All the bending of the body to effect this must take place from the hips. Now try and imagine that you are turning the handle of a crank *towards* you. Keeping the arms stiff and well away from you, straighten your back as if you were rowing. Now bend the arms and bring the dumb-bells in to your chin, and lower them until they arrive at the first position. You must make the movement in as circular a direction as you are able.

The effect of this exercise upon the abdominal muscles is most marked.

A good and simple apparatus for strengthening the abdominal muscles is that of Professor Turck,* but a tolerable substitute may be made with very little trouble as follows:—Procure two pieces of thick rubber cord of about a couple of feet in length, and attach a small metal ring to the two ends of each. Screw a couple of hooks, about three feet apart, into the wooden framework over any ordinary door. Cut a length of broomstick of three feet in length, and drive a brass-headed 4-inch nail into each end, so that it projects about an inch. To put up the apparatus for use, open the door, hook the rings at one end of the rubber cords over the hooks above the door, pass the heads of the nails at the extremity of the wooden bar through those at the other ends, and you have a kind of trapeze hanging in the doorway. To use the apparatus, grasp the bar in your hands, walk through the doorway until the bar is raised above your head, and bend the body downwards, bringing the arms forward in front of you. The arms must be kept extended in the line of the trunk, and the pull must be given with the abdominal muscles, and not by contracting those of the arm. The effect is that the abdominal muscles are thrown into firm contraction by the resistance of the rubber cord.

---

* Professor Turck's Gyromele Cables and other apparatus may be obtained from Messrs. Truax and Greene, 75, Wabash Avenue, Chicago.

The best times for doing exercises are immediately on rising in the morning and again on retiring at night. No one movement should be performed so frequently as to produce subsequent stiffness, the rule being to leave the particular exercise upon which you are engaged, the moment that a slight sensation of fatigue is felt, and pass on to the next. In patients with very weak abdominal muscles, once is quite sufficient for each exercise at first; and it must be carefully borne in mind that the movements should be executed slowly and evenly, and without any jerking. As the patient gains in strength, the number of repetitions of each movement may be cautiously increased. It is well to follow the morning exercise by any hydroptherapeutic procedure of which you may be making use.

In the treatment of constipation and other conditions of atony of the abdominal viscera, cycling is of considerable service; and this may perhaps be accounted for by the fact, mentioned by Illoway but discovered over twenty years ago by Braune,* that flexions and extensions of the hip-joint greatly increase the flow from the crural vein into the inferior vena cava. This is apparently effected quite mechanically by the arrangement of the layers of fascia with which these vessels are in relation. Not only is the lymphatic circulation facilitated, but the functions of the abdominal viscera are stimulated by the increased amount of oxygen which is carried to them. Incidentally the peristalsis of the intestinal tract is increased, as it is a well-known fact that the same is hindered by carbonic acid and heightened by oxygen. Normal intrinsic intestinal movements are accelerated by oxygen and delayed by carbonic acid gas.

The same effect will be produced by rowing, which is certainly one of the best forms of exercise for the constipated. A tolerable substitute for this exercise may be obtained by the various mechanical contrivances now to be purchased, particularly if provided with a sliding seat. They have, however, the disadvantage of being cumbersome and expensive.

---

* Braune, "Die Oberschenkel Vene in anatomischer und klinischer Beziehung," Leipzig, 1873.

THE REGULATION OF THE DIET.

Constipating articles of diet owe this property to one or more of the following characteristics :—

1. They may contain tannin or some analogous astringent substance. Their continual use will tend to diminish the natural secretion from the intestinal walls, and thus render the fæces abnormally dry. As examples of this class we may take the red wines of Burgundy and Bordeaux.

2. They may be deficient in cellulose. In this group we find the prepared cereals and other farina —rice, tapioca, sago and potatoes.

3. They are possibly articles difficult of digestion. These, whilst not irritating enough to increase peristalsis, yet tend to form accumulations in the bowels.

4. They may be too easy of digestion. The tendency of modern civilization is to prepare the food in such a manner that it shall be easily dealt with in the stomach. This may be carried to excess, and it is easy to see how a *régime* of tenderly dressed meats which leave no indigestible residue in the intestines may interfere materially with the proper action of the bowels.

5. They may contain lime salts. Lime appears to constipate, even in small doses. Why, we do not

exactly know, although Dr. Sidney Ringer has pointed out that cell function is impossible when it is present in excess. It is certain that many obstinate cases of constipation are directly due to drinking hard water.

6. They may be examples of articles of diet which produce constipation without any apparent reason in certain individuals having an idiosyncrasy with regard to them.

Per contra, other articles of food are laxative because—

1. They contain a considerable amount of cellulose. Rye, oats, bran, cabbage, asparagus, spinach, and carrots are examples of this class.

2. They contain purgative salts and sugar (see page 72). In this group we find prunes, apples, tamarinds, sauerkraut, and orange marmalade.

3. They contain hepatic stimulants. As an example, we may cite the dandelion, which forms one of the most wholesome salads with which we are acquainted, and one withal of a slightly medicinal character.

4. Articles of food which are rich in fat are distinctly laxative.

With the knowledge which we have now systematised, we shall have no difficulty in arranging such a diet table as will place the patient in the best conditions *quâ* diet for procuring a daily action of the bowels. We must not forget to give plenty of fluid, and to take care that the water which the patient drinks is not too hard. In places where the water-supply is of this nature it is as well to insist that the patient drink only water which has been treated by one of the well-known processes to remove the hardness; and we must take care that this is used not only for actual beverage, but also to wash all vegetables and salads, for boiling potatoes in, and, in short, for all culinary purposes, or we shall do very little good by our prohibitions. Butter milk is an excellent laxative drink, as it contains both fat and milk-sugar.

The Use of Drugs.

We may divide all medicinal substances used in the treatment of constipation into two groups: Those which act locally upon the intestine as direct evacuents, and those which only indirectly aid the processes which precede defæcation.

(A) *Drugs which act as direct evacuents.—Aperients and laxatives.*

All powerfully-irritating substances which, applied to the skin, will produce inflammation or vesication, will purge if introduced into the intestines in small quantities. In such doses they will increase the peristaltic action of the large intestine and the activity of the intestinal glands, and thus lead to an evacuation of the intestinal contents. Their action in all cases is probably accompanied by a certain amount of hyperæmia. But only a limited number of such substances can be so employed in practice, since all volatile, soluble, and crystalloid substances will be quickly absorbed from the stomach and never reach the intestinal canal at all. We are thus limited in our choice to those which are either of a colloid nature, or insoluble in water. The majority of these are either dissolved and digested by the alkaline contents of the small intestines, or are converted by chemical action into irritating substances. To the former category belong jalap, gamboge, colocynth, castor and croton oils. To the latter, calomel and sulphur. It is a noteworthy fact that the crude jalap, gamboge, aloes and colocynth are much more active than the so-called active principles extracted from them. For instance, crystallised aloin has hardly any action worth speaking of as a purgative. The explanation of this fact is that the colloid gum favours the passage into the intestines and its subsequent emulsification.

From the experiments of Buckheim and Krause it appears that the purgative effect of sulphur is probably due to its conversion into sulphide of sodium in the intestine. This substance is a powerful irritant, and in the small quantities present in the intestine where it is gradually formed by the conversion of the dose of sulphur taken, increases the peristalsis of the intestine. The amount of sulphide produced does not depend upon the dose of sulphur taken, but upon the quantity of available alkali present in the intestine. The dose, therefore, given by the mouth is, within certain limits, immaterial.

As regards calomel, it has been proved that its ordinary action as a purgative must be due to its local action upon the intestine, since its effects are produced before there has been time for any to have been absorbed into the system. This immediate action of calomel and blue pill must be differentiated from the symptoms of intestinal irritation which follow the absorption of mercurials into the system during a course of treatment. According to Brandis, diarrhœa has been known to follow the inunction cure at Aachen.

Another group of direct purgatives are those which only feebly stimulate the intestines, but act chiefly by preventing the absorption of water from the large intestines. To this group belong the aperient alkaline salts, of which the sulphates of sodium and magnesium may be taken as types. All phosphates, tartrates, fruit salts, and colloid substances, sugar, and manite act in this way.

"On account of their disinclination to pass through membranes by endosmosis, the substances of this category permeate only with difficulty into the tissues, and therefore cause no appreciable irritation of the skin or mucous membranes. In the intestine they are absorbed with difficulty, and hence their solutions reach the large intestines and prevent consolidation of the fæcal masses, which are consequently ejected in the fluid condition, along with the greater part of the salt. Although these salts do not excite inflammation of the sensitive mucous membrane, the gentle stimulation that they cause suffices to strengthen the peristalsis and to favour the evacuation of the fæces in the fluid state."—*Schmiedeberg.*[*]

(B) *Drugs which indirectly aid the processes which precede defæcation.*

In this group we find—

1. Medicinal agents which heighten the reflex irritability of the nerve ganglia which preside over

---

[*] Schmiedeberg, "Elements of Pharmacology," 1887, p. 129.

the intestinal movements, and thus increase peristalsis.

We have strychnine, physostigmine, and nicotine and muscarine.

Of these, physostigmine appears to have the most direct action in increasing the intestinal peristalsis, and in repeated small doses may often be taken with much benefit in cases of atony of the gastro-intestinal tract. Nicotine in the form of the morning cigar is, as we all know, a remedy not to be despised in chronic constipation.

2. Those drugs which relieve intestinal spasm.

The chief of these is undoubtedly belladonna. One of the most interesting facts in pharmacology, is the antagonism between belladonna and muscarin. "Muscarin causes a high degree of irritation in those peripheral organs which become paralysed by atropine . . . In the case of mammals . . . violent tetanic contractions of the stomach and intestinal canal . . . All these symptoms and also the stoppage of the heart in the frog, disappear entirely under the influence of a corresponding dose of atropine ; and on the other hand, they never appear at all in the case of an animal which has been atropinised, provided that the action of the atropine has reached the requisite degree."—*Schmiedeberg.*

This antagonism is of extreme interest to us, since it has been proved that at least one of the poisonous substances produced during the process of digestion is of a muscarine nature, and it is more than probable that certain cases of spasm of the intestines with attendant constipation may be due to autotoxis from it. The action of belladonna in relieving certain cases of obstinate constipation may be therefore explained.

As to valerian and assafœtida, although pharmacologists have been unable to establish any antispasmodic action by direct experiment, yet there is abundant clinical evidence as to their utility in many conditions.

3. Drugs which increase the secretions of the gastro-intestinal tract and its associated organs, the liver and pancreas.

We have very little definite information as to these, but it is probable that chloride of ammonium increases the activity of the intestinal glands.* The little knowledge which we possess as to the action of this drug we owe to the valuable researches of Dr. Lockhart Gillespie.

As regards the hepatic secretion, we can increase it by the administration of certain drugs of vegetable origin, notably euonymin, iridin, and chionanthus.

---

* "The Action of Acids and Alkalies and of some other Drugs on the Secretions of the Body in Health and Disease."—*Medical Press and Circular*, Oct. 3, 1894.

4. Medicines having a beneficial effect upon the neurasthenic condition.

The most useful of these are valerianate of zinc, nitrate of silver, ergot, arsenic, and the glycerophosphate of soda. The glycerophosphate of lime should be avoided as it has a constipating effect.

THE REGULATION OF THE BOWELS DURING TREATMENT.

From the first we must make up our minds to abandon as far as possible the use of purgative drugs, except in the few cases in which these are indispensable. As an example, we may cite congenital weakness of the muscular walls of the intestine. We may procure the necessary action—

1. By the use of a small daily enema of cold water. Whilst enemata of warm water relax the intestinal tissues, cold and very hot water act as tonics. Of these, cold water is most generally available in practice, and may be used with practical impunity. At first we give a small injection every morning during the treatment. As by degrees the intestines take on their normal functions, the enema

will be required less frequently, until it can be dispensed with altogether. The rule is to follow any omission of the morning stool with an injection the following morning.

2. The glycerine suppository. These are for occasional use only, when it is imperative to procure an immediate action of the bowels. Their continual use is almost certain to eventually aggravate the constipation.

3. The oil enema. In addition to its usefulness in removing the contents of an impacted rectum (see page 25), it is one of the most important agents at our disposal in procuring a daily action of the bowels. It may be resorted to, during a course of treatment, in all cases which resist the simple enema of cold water. Whenever possible it should be administered by the practitioner himself; and under these circumstances is best given by means of an ordinary glass funnel. A long colon tube is passed up into the bowel about twelve inches, and is then connected by a short length of tubing with the funnel in question. The patient should lie on his side in bed, with the pelvis elevated a few inches. The physician, standing by his side, holds the funnel with his left hand a foot or so above him. With the right he slowly pours into it the oil which has been previously warmed.

The funnel should not be more than two feet above the patient, and the oil must be very slowly introduced into the bowel of the patient, at least fifteen minutes being occupied in doing so.

In ordinary cases the patient may administer the injection to himself; and, although an ordinary douche-can may be used for this purpose, it is of great advantage to make use of a specially arranged apparatus. To give oneself an oil injection with ease, the following points must be attended to in its construction:—

(*a*) The douche-can must be constructed of thin metal, in order that the contained oil may be warmed by immersing the can in hot water.

(*b*) There must be a mark upon the can to show when it contains half-a-pint.

(*c*) The tap or clip at the distal extremity of the tube must be capable of being manipulated with one hand.

(*d*) The nozzle must have a bore of larger calibre than is usual in ordinary enema syringes.

Such an apparatus is represented in the Figures 7, 8, 9, 10.*

---

* May be obtained from Bailey & Son, 38, Oxford Street, W.

Fig. 7 represents the complete apparatus. A thin metal douche-can (A) holding a little over one pint, is provided with a mark (B) to show when ten oz. have been placed in it. Its tube (C) bears near its distal extremity a clip (D), and terminates in the special nozzle (E).

Figs. 8 and 9 show the clip open and shut respectively.

Fig. 10 shows the nozzle, the exact size of the bore being indicated at (K).

With such an apparatus the patient should experience no difficulty in giving himself the injection without assistance; but as all people are not gifted with the same amount of manipulative dexterity, experience shows that for such to be the case it is usually necessary to provide him with precise and minute instructions as to the successive steps of the operation.

The directions which I am in the habit of giving the patient are the following:—

1. See that the clip is shut down, as in Fig. 8.

2. Fill the douche-can with olive oil up to the mark B.

3. Stand the can in a basin of hot water until the contained oil has become quite warm.

4. Place a bed parallel to the wall of the room, and drive a nail into the wall two and a half feet above it.

5. Hang the can on the nail.

6. Lie down on the bed with your face to the wall.

7. With the right hand insert the nozzle into the anus and open the clip. This can be done without assistance. When the oil has all run in, shut down the clip and get at once into bed.

Note that the injection should always be taken at night.

About ten ounces will be sufficient for an adult, and two or three for a child, according to age. The oil should then be retained as long as possible, and if the injection be given at bedtime the action of the bowels will often not take place until the following morning. The effect of one injection will usually last for several days, and often for a week, the patient having a daily stool during that period. When the effect passes off another should be given. In any case where it is desirable to procure the maximum effect these injections may be given every day. It sometimes happens that in certain cases the oil will be found to produce an unexpected purgative effect. In these cases there is probably some increased peristaltic action which hurries unduly the bile and pancreatic juice along the intestine, and these, coming in contact with the oil, form irritating soaps. It is advisable when using oil enemata now and then to administer a large alkaline douche.

The following case will serve as an example of the result of oil injections on average patients.

Mrs. C., aged 34, consulted me in March, 1898. She had been for many years troubled with constipation; and for some time past, the bowels had never been opened except as the result of taking purgative medicine. Latterly, nothing less than a ten-grain pill of colocynth and hyoscyamus, would produce an evacuation.

On examination, fæcal masses were felt in the cæcum and in the descending colon. The rectum was also blocked with fæces. Treatment was commenced by a series of large douches, which removed a large quantity of fæcal material from the bowel. As soon as the large intestine was completely voided, daily treatment was commenced in the form of local application to the abdomen of the slowly interrupted current from a coarsely wound primary coil. At the same time she was instructed to make use daily of the exercises for strengthening the abdominal muscles. The bowels not having moved after the sixth application, another large douche was administered. On the eleventh day of treatment, an oil injection of half-a-pint was given at bedtime. The bowels were opened on the succeeding morning, and also on the two following days. Two days were then allowed to elapse without another injection, and then the oil douche was repeated. The bowels were now open daily for one entire week. During the next three days, there was no action of the bowels, so a large douche of half-a-gallon of water at 100° F., containing a little bicarbonate of soda, was given. On the third day after this, there was a natural motion, and also on the next day. An oil douche was then given, with the result that a motion every day or so resulted for a fortnight. Three more oil injections were taken during the course of her treatment, which extended over three months, and since then none have been required, the bowels remaining regular. The only drug administered by the mouth was a little nux vomica.

THE PROGNOSIS OF SEVERE AND LONG-STANDING CASES OF CONSTIPATION.

As regards the probability of permanent relief, it is a fact that whilst almost all cases will be greatly improved, a large number may be absolutely cured by a proper course of treatment of sufficient length. But the difficulty is to pursuade the average patient to submit to such a course. The majority of those who do us the honour of consulting us, expect a prescription which will magically restore the functions of the bowels, or look for a course of galvanic or mechanical treatment which they can carry out for themselves or with unskilled assistance. As a matter of fact, in order that habitual and severe constipation may be cured, it is absolutely necessary that any galvanic or manipulative treatment should be applied by an expert who has had special experience, not only in the use of the methods which he is employing, but also in their application to cases of this nature. The treatment should, therefore, as a rule, be carried out by the physician himself, and not delegated to a nurse or masseur. This is all the more necessary, since it is a *sine quâ non* that the physician should have an opportunity of watching and checking from day to day the effect of the drugs, diets, and other measures employed by him. Only in this way and under these conditions can he hope permanently to alleviate these intractable affections. If the patient is unwilling to give a free hand in this direction, and if he cannot be induced to offer you the necessary facilities, it will be better to decline the case altogether, or your client will be disappointed, and your treatment suffer unmerited discredit. Over and over again has a relapse been seen in patients, who, in their own wisdom, have relinquished treatment as soon as it had commenced to prove beneficial. The restoration of all weakened tissue must of necessity be a somewhat lengthy process. The gastro-intestinal tract forms no exception to this rule.

In concluding this brief and imperfect sketch of a most interesting and important subject, the writer can only further impress upon the reader the conclusion to which its study must inevitably lead,—that the cases of constipation which come under notice in practice are not to be lightly regarded or dismissed with a prescription for a routine laxative, but should be made the subject of earnest study. In *all* cases, even those of short duration, a proper diagnosis of the cause should be made. The patient will thus be preserved from possible dangers in the future, whilst his present comfort will be greatly increased.

INDEX.

	PAGE.
Abdominal cold douche	44
Abdominal muscles, weakness of	20
Alcohol	21
Allingham	25
Aloin	70
Ammonium chloride	74
Aperient alkaline salts	72
Apples	68
Arsenic	75
Asparagus	68
Assafœtida	74
Astringent food	21
Atony of stomach	17
Autotoxis during douches	37
Battery, minimum outfit	46
Baudet	56
Blue pill	71
Bordeaux wine	67
Brain disease	19
Bran	68

PAGE.

Brandis - - - - - 71

Braune - - - 66

Buckheim - - - - - 71

Burgundy - - - - - 67

Butter-milk - - - - - - 69

Cabbage - - - - - - 68

Calomel - - - - - 71

Campbell - - - 62

Carrots - - - - - 68

Castor oil - - - - - - 70

Cellulose - - - - - - 7, 21

Charcot - - - - - - 55, 57

Chionanthus - - - - - - 75

Chloride of silver cell - - - - - 47

Coarseness of food - - - - - 21

Cold abdominal douche - - - - 44

Cold wet sheet - - - - - 44

Colic - - - - - - 16

Colitis - - - - - - 16

Colocynth - - - - - - 70

Colon, irrigation of - - - - - 30

Constipating articles of diet - - - - 67

Constipation, definition of - - - - 3

Controller, *Willm's* - - - - - 46

Cooking of food - - - - - 21

Croton oil - - - - - - 70

Daily action of bowels - - - - 2, 7

Dandelion - - - - - - 68

Definition of constipation - - - - 3

de Watteville's coil - - - - - 48

PAGE.
Diagnosis - - - - - - 10
Diet - - - - - - 67
Direct evacuents - - - - - 69
Douche can for irrigating colon - - 32
Douche can for oil enema - - - - 77
Drugs - - - - - - 69

Electricity, uses of - - - - - 46
Electrodes - - - - - 49, 50, 51
Enemata - - - - - - 75
Enteroptosis - - - - - - 16
Ergot - - - - - - 75
Euonymin - - - - - - 75
Ewald - - - - 17, 19, 20, 25, 68
Exercise, defective, as a cause - - - - 21
Exercises: *Campbell's* - - - - 62
,, *Herschell's* - - - - 63
,, *Turck's* apparatus - - - - 64

Fæcal retention - - - - - 2, 3
Fæces, removal from rectum - - - - 25
,, colon - - - - 30
Faradic coil - - - - - 48
Faradisation of colon - - - - - 49
,, rectum - - - - 52
Fat - - - - - - 68

Gamboge - - - - - - 70
Gastric atony - - - - - 17
Gastrodiaphane - - - - - 18
Gersuny - - - - - - 14
Gillespie - - - - - - 74

PAGE.
Glycerine suppositories - - - - 76
Granville - - - - - - 56
Gymnastics - - - - - - 61
Gyromele - - - - - - 18, 51

Hard water - - - - - - 68
Heart disease - - - - - 19
Hepatic disease - - - - - 19
Hepatic stimulants - - - - - 68, 75
History of case - - - - - 11
Hovath - - - - - - 55
Hydrotherapy - - - - - 42
Hysteria - - - - - - 16

Ice massage of the abdomen - - - - 43
Illoway - - - - - - 15, 54
Intestinal spasm - - - - - 16
Iridin - - - - - - 75
Irrigation of colon - - - - - 30
,, rectum - - - - - 27
,, sigmoid flexure - - - - 29

Jalap - - - - - - 70

Kidney, moveable - - - - - 19
Krause - - - - - - 71

Large intestine, estimation of position of - - 15
,, irrigation of - - - - 30
Lead poisoning - - - - - 16
Liedbeck - - - - - - 58
Lime salts - - - - - - 67

	PAGE.
Ling	55
Magnesium sulphate	72
Manometer, use in irrigation of the colon	35
Marmalade	68
Massage	53
,, with ice	43
Mastication of food	21
Meltzer	57
Moveable kidney	19
Muscarin	73
Neurasthenia	16, 21
Nicotine	73
Normal peristalsis	3
Oats	68
Oil enema	76
Old fæces, character of	36
Olive oil	25
Ox-gall	25
Pain, significance of, during the douche	35
Palpation of abdomen	12
Passage of food along the intestinal tract	4
Peristalsis	3
,, mechanism of	6
,, defective	9
Physostigmine	73
Position of large intestine	15
Potatoes	67
Prognosis	81

	PAGE.
Prunes	58
Purgatives, abuse of	21
Purgative salts in food	68
Pyloric stenosis	18
Rectum, continuous irrigation of	26
Regulation of bowels during treatment	75
Reinke	55
Removal of fæces from rectum	25
Retained fæces, examination for	11, 13
Rice	67
Ringer	68
Rye	68
Sago	67
Saline solution for douche	34
Sauerkraut	68
Schmiedeberg	73
Schmidt	57
Sheet, application of wet	44
Sigmoid flexure, irrigation of	29
Silver nitrate	75
Sodium glycerophosphate	75
Sodium sulphate	72
Spasm of intestine	16
Spinach	68
Spinal cord	19
Spinal douche	44
Splashing sound	18
Strychnine	75
Sulphur	71

PAGE.
Tamarinds - - - - - - 68
Tapioca - - - - - - 69
Towel, friction with wet - - - - 45
Turck - - - - - - 51, 64

Vibration - - - - - - 58
Vigoroux - - - - - - 55

Water - - - - - - 68
Wet sheet - - - - - - 44
Wet towel - - - - - - 45
Weakness of abdominal muscles, test for - - 20
Willm's current controller - - - - 46

Zander - - - - - - 55

WELLCOME LIBRARY INSTITUTE

HENRY J. GLAISHER,
MEDICAL PUBLISHER AND PRINTER,
WIGMORE STREET,
CAVENDISH SQUARE, W.

A LIST OF WORKS

PUBLISHED BY

HENRY J. GLAISHER,

57, WIGMORE STREET, CAVENDISH SQUARE, LONDON, W.

Medical Works.

HERSCHELL, George, M.D.Lond., Fellow of the Royal Medico-Chirurgical Society; Senior Physician to the National Hospital for Diseases of the Heart, &c., Soho Square; formerly Physician to the West End Hospital for Diseases of the Nervous System.

Constipation and its Modern Treatment. *With half-tone Illustrations.* Second Edition. Cr. 8vo, cloth. Price 2s. 6d. net.; by post, 2s. 8d.

"We can strongly recommend the perusal of Dr. Herschell's little book."—*West London Medical Journal.*

"The recommendations are of a thoroughly practical kind and have a sound scientific basis."—*Glasgow Medical Journal.*

"We recommend the book as a very complete and accurate account of the subject of which it treats.—*Treatment.*

Indigestion: An Introduction to the Study of Diseases of the Stomach. Second and Cheaper Edition. 350 pp. Cr. 8vo, cloth. Price 2s. 6d. net.; by post, 2s. 10d.

"One of the most highly suggestive and practical treatises of the diseases of the stomach ever published."—*British and Colonial Druggist.*

"A thoroughly sound, reliable, and conscientious work."—*Pharmaceutical Journal.*

Cycling as a Cause of Heart Disease. Cr. 8vo, cloth. Price 1s. net.; by post, 1s. 2d.

Clinical Diagrams:—

With Directions for Recording Cases of Heart Disease. Price 1s., post free.

——————— for Recording Cases of Heart Disease. Price 6d., post free.

BLAKE, Edward, M.D., M.R.C.S., Life Associate Sanitary Institute of Great Britain; Member French Hygienic Society; Hon. Member Michigan Medical Society; Found. Fell. Gyn. Soc., etc.

In Preparation—**Gout and Rheumatic Gout.**

Sewage Poisoning: Its Causes and Cure. Cloth, 8vo. Price 1s. net; by post, 1s. 1d.

"Embodies the results of very serious thought and a considerable acquaintance with the faults of hastily-erected houses..........The right kind of book, brought out at an opportune moment."—*Sanitary Record.*

BLAKE, Edward, M.D., M.R.C.S.—*Works by, continued.*

Heart Hurry. A Clinical Study of Tachycardia, as distinguished from Tremor Cordis and Palpitation proper. Cloth, 8vo. Price 2s. net; by post, 2s. 2d.

On the Study of the Hand for Indications of Local and General Disease. Including a New Section on The Pulse—Chloroform Syncope, an improved Treatment on purely scientific lines—The Immediate Cure of Engorged Liver. Second Edition. *Thirty-eight Illustrations.* Cloth, 8vo. Price 3s. 6d. net; by post, 3s. 10d.

"In the best sense of the word, scientific."—*Sanitary Record.*

"Interesting illustrations. A great aid in diagnosis."—*Journal of State Medicine.*

"A mine of interesting information. Illustrations very valuable. —*Journal of Mental Science.*

"An immense mass of well-arranged facts."—*Dublin Journal of Medical Science.*

Lip Chorea: A Handbook on the Causes and Treatment of Stammering. Cloth, 8vo. Price 1s. net; by post, 1s. 1d.

Ankle Strain. A Clinical Study, giving the Physiological Anatomy of the Ankle-joint. Cloth, 8vo. Price 2s. net; by post, 2s. 2d.

The Inframammary Pain, Why on the Left Side? A Study in Evolution. Cloth, 8vo. Price 1s. 6d. net; by post, 1s. 8d.

The Inframammary Pain. Its Nature; its Causes; its Concomitants, Supraorbital Pain, Pain 19th Spinal Nerve, in Ilio-hypogastric, Genito-crural, Posterior Lumbo-sacral and Posterior Cervical Filaments; their Treatment, local, general and etiological.

Clinical Forms:—

CASE FORM - - - - -	25 for 1s. net.
SYMPTOM LIST - - - -	25 for 1s. net.
ABDOMINAL DIAGNOSIS, *with Blocks,*	25 for 1s. 6d. net.

Constipation, Corpulency and their Results. Demy 8vo, sewed. Price 1s. net.; by post, 1s. 1d.

Myxœdema, Cretinism and the Goitres, with some of their Relations. *Eight Illustrations* [*two coloured.*] Cloth, 8vo. Price 3s. 6d. net; by post, 3s. 10d.

"We are glad to welcome such a work as this, dealing with morbid processes which are by no means thoroughly understood......... The text is enriched with some good plates."—*Practitioner.*

COLLIER, Mayo, M.S.LOND., F.R.C.S.ENG. President of the British Laryngological, Rhinological and Otological Association; Senior Surgeon to the North-West London Hospital.

Mouth-breathing and its Relation to Diseases of the Throat, Ear, Nose and Accessory Cavities. *Frontispiece.* Demy 8vo, Cloth. Price 2s. 6d. net; by post, 2s. 9d.

The subject was discussed at the recent Ipswich meeting of the British Medical Association, and it is one that has been treated and animadverted upon both here and in America.

CULLINGWORTH, Charles J., M.D., D.C.L., F.R.C.P.

On the Importance of Personal Character in the Profession of Medicine. Cloth, 8vo. Price 6d. net; by post, 7d.

FITZGERALD, John, L.D.S., Dental Surgeon to the Italian Hospital, &c.

Pyorrhœa Alveolaris, and its Relations to General Medicine. *With Illustrations.* Second Edition. Cr. 8vo, cloth. Price 2s. 6d.; by post, 2s. 9d.

"It is extremely useful in bringing together in a concise form the *principal facts which are at present known.........The remarks on treatment are good."—Lancet.*

HUTCHINSON, Woods, A.M., M.D., Professor of Comparative Pathology at the University of Buffalo, U.S.A.

Studies in Human and Comparative Pathology. Being a New Handbook on Diseases of the Lower Animals compared with those of Man. Edited by Dr. Blake. Demy 8vo. *Illustrated.* Price 12s. 6d. net.; by post, 13s.

"Thoroughly up to date. This is more than the best compendium on the subject, for as a work it is unique. Though imbued with the true Scientific Spirit, it is written in an attractive and interesting style, and is thoroughly readable from title-page to finish."

KEIGHTLEY, A., M.D.Cantab.

The Recovery of Health, with a Chapter on the Salisbury Treatment. *Many illustrations.* Cr. 8vo, cloth. Price 5s. net.; by post, 5s. 4d.

The Recipes from above Volume separately. Price 6d. net; by post, 7d.

KINGSCOTE, Ernest, M.B., C.M., L.R.C.S.Edin., Fellow of the Medical Society of London, &c.

Asthma: Recent Developments in its Treatment. *With Coloured-Frontispiece and Illustrations.* Demy 8vo, cloth. Price 5s. net.; by post, 5s. 4d.

"The work shows evidence of careful study and painstaking investigation, and is well worthy of perusal."—*Journal of Balneology.*

On So-called "Spasmodic Asthma." Considered from an Entirely New Standpoint with regard to its Radical Cure. Sewed. Demy 8vo. Price 1s. net.; by post, 1s. 1d.

NUNN, Thomas W., F.R.C.S., Consulting Surgeon to the Middlesex Hospital.

Cancer. Illustrated by 1000 Cases from the Registers of the Middlesex Hospital, and by 50 Selected Cases of Cancer of the Breast, etc. *With plates of Microscopical Sections.* Cr. 8vo, cloth. Price 1s. net. ; by post, 1s. 3d.

Care of Growing Children. Cr. 8vo, cloth. Price 1s. net. by post, 1s. 3d.

"Mr. NUNN describes the physiology of Normal Growth with the object of assisting those who may have charge of the young, to recognise early abnormalities, which if left unheeded, may develop into grave defects. Should be of value to all who have the charge of young children."—*Scotsman.*

"May be read with profit by mothers and others who have children in their charge."—*Spectator.*

"Mr. NUNN has written a readable little book.........he has discharged his duty well."—*British Medical Journal.*

"It is clearly written."—*Lancet.*

A Page in the History of Ovariotomy in London. Demy 8vo, sewed. Price 6d. net ; by post, 7d.

SAVILL, Thomas D., M.D., Physician to the West-End Hospital for Diseases of the Nervous System ; Examiner in Clinical Medicine in the University of Glasgow.

Clinical Lectures on Neurasthenia. Demy 8vo, cloth. Price 5s. net ; by post, 5s. 4d.

"Will be read with great interest."—*Lancet.*

SMITH, J. Barker, L.R.C.P.

Quantitative Estimation of Urine. New System of Rapid Analysis for Medical Men and Pharmacists. Cr. 8vo, sewed. Price 1s.

SMITH, Heywood, M.A., M.D. Oxon.

Practical Gynæcology ; A Handbook of the Diseases of Women. Second Edition, revised and enlarged. *With Illustrations.* Cr. 8vo, cloth. Price 5s. net. ; by post, 5s. 4d.

SPENCER, William H., M.A., M.D. Cantab., M.R.C.P. Lond., Consulting Physician to the Royal Bristol Infirmary ; formerly Lecturer on the Principles and Practice of Medicine, and on Pathology, at University College, Bristol, Medical School.

Consumption : its Nature and Treatment. With a Chapter on Bacteria and Antiseptics. Cr. 8vo, sewed. Price 1s. net. ; by post, 1s. 2d.

"Gives in a short, succinct manner information regarding the 'white plague,' and the precautions which should be used to prevent and check its progress."—*Canadian Journal of Medicine and Surgery.*

"It appearance is very opportune."—*Health.*

TURNER, Robert, M.A., M.D., F.R.C.S Edin.

Lord Lister and Surgery. Cr. 8vo, sewed. Price 1s. net.; by post, 1s. 1d.

"The main facts of modern bacteriology are accurately represented." —*Treatment.*

"A general history of the advance of modern surgery."—*Hospital.*

"Likely to spread useful information, and give confidence to patients."—*Literary World.*

WEST, Samuel, M.A., M.D. Oxon., F.R.C.P. Lond.; Assist. Physician, St. Bartholomew's Hospital; Senior Physician, Royal Free Hospital, &c.

Granular Kidney and Physiological Albuminuria. Demy 8vo, cloth. Price 7s. 6d. net.; by post, 7s. 10d.

"Dr. West may be congratulated on having produced a valuable and instructive book on a disease which is very common and yet very imperfectly understood."—*Lancet.*

"A valuable work of reference."—*Glasgow Medical Journal.*

"A carefully constructed treatise, clear and concise."—*British Medical Journal.*

WRIGHT, Dudley, F.R.C.S.

The Treatment of Hæmorrhoids and Rectal Prolapse, by Means of Interstitial Injections. Demy 8vo, sewed. Price 1s. net.; by post, 1s. 1d.

"This is an exceedingly useful and readable little pamphlet, it is short, well written and well printed."—*Journal of Balneology.*

Nurse's Report Book (The). Compiled by K. H. (Cert.) Containing space for general details at the beginning of the book, and for general remarks on the case at the end of the book, and with space of 200 entries of each of the following details: Time, Nourishment, Stimulants, Temperature, Pulse, Respiration, Urine, B.O., Sleep, and Remarks. Sm. 4to, black cover. Price 6d. net.; by post, 8d.

6 Books, 4s. 6d.; 3 Books, 2s. 6d.; 1 Book, 1s. Postage extra.

Glaisher's Message and Appointment Tablets. In Books of 50 each, with Name of Practitioner printed.

These Tablets ensure the correct delivery of Messages from Patients to Practitioners, thus preventing the confusion and error which too frequently arise from verbal or slate-written communications. As the Caller writes his own message, name, and address, all carelessness on the part of the servant, or possibility of error, is avoided. The leaflet is torn off, and filed for reference.

WESTMINSTER HOSPITAL REPORTS (The), for the Years 1899—1900. Demy 8vo, cloth, Price 6s. net; by post, 6s. 5d.

In addition to the tabulated Reports of the Medical and Surgical Cases, the volume includes a valuable report of the Pathological Department, with Catalogue of Specimens recently added to the Museum. Important papers have also been contributed by the following writers:—

W. ALLCHIN, M.D., F.R.C.P.:—In Memoriam John Baptiste Potter, M.D., F.R.C.P., Obstetric Physician to the Hospital.

A. M. DAVIES, M.R.C.S., D.P.H.CAMB.:—"The Bacteriological Examination of Drinking-water."

FREDERICK S. PALMER, M.D., M.R.C.P.:—"A Sketch of the History and Pathogenesis of Sugar Excretion."

C. M. JENKINS, Chaplain of Darenth Asylum, and F. R. P. TAYLOR, M.D., B.S.Lond.:—"Care, Treatment, and Training of Imbecile Children."

JAMES SWAIN, M.S., M.D.LOND., F.R.C.S.ENG.:—"The Surgical Treatment of Appendicitis exemplified by a retrospect of Fifty consecutive Operations."

F. DE HAVILLAND HALL, M.D., F.R.C.P.:—"Remarks on the Connection which exists between the Nose and Throat and the Generative System."

ROBERT SANDERSON, M.B., B.Ch.Oxon.:—"Two Cases of Division of the Symphysis Pubis at Full-term Labour."

GUSTAVUS HARTRIDGE, F.R.C.S.;—"The Treatment of Strabismus."

G. BROOKSBANK JAMES, F.R.C.S.:—"A Case of Bi-temporal Hemianopsia due to Basal Fracture of the Skull." *Two diagrams.*

ARTHUR T. WHITE, L.R.C.P., M.R.C.S.:—"Notes on Some Cases of (? Malarial) Iritis, occurring in Persons the subjects of Malarial Fever and relieved by Quinine."

Mr. SPENCER, Cases under the Care of:—

Extensive Prolapse of the Rectum and Uterus in Old Women, due to Ovarian Cysts."

A Case of Persistent Nocturnal Enuresis in a female. Treated by Torsion of the Urethra. Gersuny's Operation.

Dr. MURRELL:—Picrotoxin and Senecin."

A. H. TUBBY, M.S., F.R.C.S.:—"The Surgical Treatment of Paralysis by Tendon-transplantation and Arthrodesis."

JAMES SWAIN, M.S., M.D.LOND., F.R.C.S.ENG.:—"A Case of Polypoid Fibroma of the Pylorus successfully Removed by Operation." *Two diagrams.*

E. PERCY PATON, M.S., F.R.C.S.:—"Two Cases of Prolapse of the Rectum treated by Excision."

R. G. HEBB:—"Case of Ulcerative Colitis."

Miscellaneous Publications.

HARRISON, Clifford.

"**Echoes.**" A New Volume of Poems, containing "The Post Boy." Cr. 8vo, cloth. Price 3s. 6d. net.; by post, 3s. 10d.

"Mr. Harrison knows how to impress a scene or picture in very vivid and musical poetry."—*Brighton Gazette.*

"Mr. Harrison reveals himself as a skilful writer of verses whose quick and delicate imagination, whose sensitive and reflective spirit, impresses its refined individuality upon almost every page."—*Brighton Herald.*

The Life of Our Ladye. Scriptural, Traditional and Topographical. Compiled from approved sources by M. P., with Preface by His Eminence Cardinal Vaughan, Archbishop of Westminster. Cheaper Edition. Price 3s. net; by post, 3s. 4d.

"I shall quote no more at present from this estimable volume, but leave the Reader to gain the many lessons which it teaches from the perusal of the pages of the original work."—*The Lamp.*

"We welcome with great heartiness this 'Life of the Blessed Virgin,' which is written in a style well befitting the subject—devotional but clear, temperate and graceful."—*The Catholic Times.*

Verses in Various Veins. Fcap. 8vo, cloth. Price 1s. net; by post, 1s. 2d.

STOCKER, R. D., Author of "A Concordance of Graphology."

The Human Face as Expressive of Character and Disposition. Cloth, fcap. 8vo. Price 1s. net; by post, 1s. 2d.

"Interesting and suggestive. I have no hesitation in recommending the outcome of his researches to those of my readers who are interested in physiognomy. *Lady's Pictorial.*

"A pleasantly-written, up-to-date, treatise."—*Ladies' Field.*

Graphology Made Easy. A Manual of Instruction in Character-Reading from Handwriting. With Appendix by Ina Oxenford. With Explanatory Autographic Examples. Cr. 8vo, sewed. Price 1s. net; by post, 1s. 3d.

TOYNBEE, William. Author of "Songs of Béranger in English Verse," "Lays of Common Life," &c.

Excursions in Comedy, for Players and Readers. Fcap. 8vo, cloth, gilt top, 2s. 6d. net; by post, 2s. 8d. Or sewed, 1s. 6d. net; by post, 1s. 8d.

"In all his dialogues there is wit and a peculiar formal grace very rare in playwrights."—*Saturday Review.*

"Either for stage or drawing-room, where short pieces are required, none more charming can well be imagined, than those by Mr. William Toynbee."—*Westminster Gazette.*

"I should like to quote, but space forbids, the whole of 'Monsieur Methuselah,' that delightful bit of eighteenth-century brocade.' —*Truth.*

TOYNBEE, William—*Works by, continued.*

On Oaten Flute, and Other Versicles. Fcap. 8vo, cloth, gilt top. Price 2s. 6d. net; by post, 2s. 8d.

"Has a keen eye for the gladness of life and the beauties of Nature."—*World.*

"His sonnets have a note of distinction."—*Westminster Review.*

"Exquisite as impressions of peace and beauty."—*Daily News.*

"Among the most careful of lyrists."—*Literature.*

"He loves Nature, and is alive to many of her changing moods."—*Morning Post.*

RONALD-TAYLOR, Mrs.

Amongst the Pots and Pans (DAINTY COOKERY). Cr. 8vo, cloth. Price 2s. 6d. net; by post, 2s. 9d.

"The latest arrival on the culinary field of art is a volume of dainty cookery by Mrs. Ronald-Taylor. It is an admirably written and contrived guide, philosopher, and gastronomic friend. The French dishes have been handed down to the writer as the work of a celebrated French CHEF, when the Tuileries was the pulse of France. The style throughout is clear, and the directions simplified as much as language can simplify them. From these pages the most elaborate dinner can be constructed or the most simple dainty dressed. It is without doubt a book which every one's wife who prides herself upon a well-conducted establishment should possess." —*The Whitehall Review*

THORPE, Elphinstone.

Lyrics from Lazyland. Fcap. 8vo, cloth. Price 2s. 6d. net; by post, 2s. 8d.

"The author of this dainty little volume of lyrics has a very pretty gift of song, and succeeds in wedding refined and tender thoughts to melodious and expressive diction."—*Lady's Pictorial.*

SMITH, Heywood, M.A., M.D. Oxon.

The Genesis of the Soul. Cr. 8vo, sewed. Price 6d. net; by post, 6½d.

"Dr. HEYWOOD SMITH, in THE GENESIS OF THE SOUL, finds in the opening verses of the Old Testament a picture or parable of Man's soul development. As a study, suggestive though slight, the book will be helpful."—*The Christian.*

The Gospel according to Satan. Cr. 8vo, sewed, 1s.; cloth, 1s. 6d.

The Irish Land Acts.

"IMMORAL LEGISLATION." Four Political Essays in Doggerel. By the Author of "A Treatise on the Immorality of Idolatry." Demy 8vo, Cloth. Pp. xlii and 312.

Though the Essays are written in doggerel—which the author claims to be the only fitting style in which to write of present day Irish land legislation—yet the work contains many highly original and trenchant articles on the way the Irish landlords have been jettisoned by a Conservative government for the sake of making peace with a "faction."

Printed by
BOWDEN BROS., 17 East Street, Manchester Square, London, W.